UGANDA PROTECTORATE.

ANNUAL REPORT

OF

THE MEDICAL DEPARTMENT

FOR THE

Year ended 31st December, 1934.

Published by Command of His Excellency the Governor.

ENTEBBE:
PRINTED BY THE GOVERNMENT PRINTER, UGANDA.
1935.

(5736)

MEDICAL DEPARTMENT,
HEADQUARTERS OFFICE,
ENTEBBE, UGANDA.
22ND MARCH, 1935.

SIR,

I have the honour to submit for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary Conditions of the Uganda Protectorate for the year 1934, together with the Returns, etc., appended thereto.

I have the honour to be,
Sir,
Your obedient servant,

W. H. KAUNTZE,
Director of Medical Services.

THE HONOURABLE
THE CHIEF SECRETARY TO THE GOVERNMENT,
ENTEBBE.

LIST OF CONTENTS.

MAP OF UGANDA PROTECTORATE

Scale of Miles

10 0 10 20 30 40 50 60 70 80 90

SUDAN
KENYA
BELGIAN CONGO
TANGANYIKA

Ikoto's
Tereteinie
Madi Opei
Nimule
Kaia
Albert Nile
Kitgum
Loyoro
Karamoja
Moroto
Arua
Rhino Camp
West Nile
Lugulu
Gulu
Paranga
Wadelai
Pakwach
Victoria Nile
Murchison Falls
Tochi
Asua
Lira
Lango
Atura
Kachung
Soroti
Kyoga
Bugondo
Kumi
Ngora
Pallisa
Bugwere
Bugishu
Mbale
Elgon 14140
Bubulu
Namasagali
Kamuli
Kaliro
Busembatia
Tororo
Busoga
Budama
Busia
Mjanji
Luzinga
Iganga
Mutai
Jinja
Kampala
Port Bell
Entebbe
Mpigi
Mitiyana
Kabulamuliro
Bombo
Lugazi
Luwero
Victoria Nile
Kiboga
Mengo
Tweyanze
Port Masindi
Masindi
Butiaba
Lake Albert
Kibiro
Kaiso
2028
Hoima
Kafu
Lugogo
Nkoko
Ntoroko
Nkussi
Muzizi
Semliki
Lamia
Ruwenzori
16794
Mubende
Butiti
Fort Portal
Kasenda
Kyegegwa
Mpanga
Katonga
Ankole
Masaka
Bukakata
Sese Islands
Kisumu
To Mombasa
L. George
Katwe
Kazinga
Ruhoko
L. Edward
Kigezi
Ishasha
Mbarara
Bikira
Simba
Kagera
Lake Victoria
3726'
Liltobo
Kabale
Mufumbiro

29° 30° 32° 34° 35°
4° 2° 0°

Uganda Survey Dept Nov 1926

Ikotos
Tereteinie
Madi Opei
Kitgum
Loyoro
Gulu
Paranga
Moroto
Agua
Lira
Atura
Kachung
Masindi
Soroti
Bugondo
Kumi
Ngora
Pallisa
Mbale
Bubulu
Namasagali
Kamuli
Mbulamuti
Kaira
Busembatia
Tororo
Luzinga
Iganga
Mutai
Lugazi
Kampala
Jinja
Busia
Port Bell
Mjanji
Kisumu
To Mombasa
Bugala Islands
LAKE VICTORIA
3726'
Uganda Survey Dept Nov 1926

MEDICAL AND SANITARY DEPARTMENT.

ANNUAL REPORT

For the Year ended 31st December, 1934.

SECTION I.—ADMINISTRATION.

General Remarks.

1. The development of the health services outlined in the corresponding section of the Departmental Report for 1933 proceeded smoothly during the past year. Nursing Sisters were posted to Soroti, Hoima, Masindi and Mbarara, and Senior African Medical Assistants replaced Sub-Assistant Surgeons at Arua, Fort Portal and Mbarara, and one was posted to the native hospital at Kabale, where previously only a medical officer was stationed. The policy of the Department was summarised in the form of a Memorandum with the approval of Government in the early months of the year; this is reproduced in Appendix I. Naturally, the general effects of the new services on the health of the population cannot yet be seen, but during a recent tour through the West Nile District, which is generally considered to be one of the most backward parts of the Protectorate in regard to general development, it was pleasing to find how widely the people were adopting the new ideas of ventilation and lighting of native huts, the control and protection of water supplies, and the provision of latrines. There is no question that the very successful Health Exhibition in Kampala was a great object lesson to those who attended and saw for themselves the methods of improving sanitary conditions generally in their own homes, but its influence extended even more widely, for it was also a subject of discussion for months afterwards by the population of villages from which visitors to the Exhibition were drawn. It is now part of departmental policy that one or more exhibitions shall be held yearly in various parts of the Protectorate with the object of showing the people how improved sanitation can be made available in their villages, how little the improvements actually cost in the way of money, and, if it is possible to link the Exhibition with one demonstrating better methods of agriculture and animal husbandry, to show how readily the small amount of money that is necessary can be obtained from improved cultivation and the consequent increase in crops. In the development of these improved health conditions in the Protectorate the help of the Administration is essential. The visit to the West Nile District previously mentioned revealed how much can be done when administrative officers generally take a keen interest in health development and lend their assistance in every possible way to medical officers in pursuit of their schemes of improvement. We have still a long way to go before the methods which have been recommended will be adopted by the majority of the population but it may be said that in almost every district a beginning has been made, improved methods have been demonstrated, and an example given to the surrounding people.

2. As it is recognised that it is the growing generation who will be largely responsible for the introduction of improved conditions in their districts, special attention was given during the year to sanitation at schools. It is regrettable to say that in the majority of Non-Government schools the sanitary conditions are anything but good. In many places, the desire of the young African to be taught the elements of knowledge has resulted in such a rush on schools that overcrowding in these institutions is the rule rather than the exception, and this overcrowding exists not only in the dormitories of boarding schools but also in the school rooms into which day scholars are admitted as well as boarders. The ill-effects of overcrowding are rendered worse by the insanitary type of accommodation provided for the boarders. In many cases this consists of unlighted and very ill-ventilated rooms. Medical Officers have drawn the attention of the Education Authorities to these defects and it is only fair to say that attempts have been made in certain places to provide better ventilation, but the evils of overcrowding and of lack of light have not yet been dealt with. It seems that only two solutions of the problem are possible; one is the building of increased

accommodation of an improved type, and the other the limitation of the number of boarders and day scholars permissible at any school. Latrine accommodation at schools is also conspicuously bad, though again, since the attention of the authorities in charge of schools has been drawn to the matter, attempts have been made to improve the sanitary accommodation in certain places.

3. Medical education has been given grave consideration during the year as it was felt that the curriculum could be considerably improved, not only in the arrangement of the course but also in the quality of the material taught. The solution of the question was not reached at the end of the year, but the Director of Medical Services took advantage of his leave in England to discuss the question with the teaching staff at various medical schools in England. The comments of the examiners at the final examination will be found in a later section of the report, and point to the need there is for reconsideration of the present course with a view to making it more practical and less theoretical. The development of health services in districts has given rise to a demand for a class of medical personnel which has not really been available up to the present; true that some of the African staff have been labelled Sanitary Inspectors but they have acted as little more than headmen of sanitary gangs or possibly carried out work which might more properly be considered the duty of a sanitary overseer. Before recruiting staff to meet this demand it was necessary to draw up a curriculum and to decide the status that was to be given to the new personnel and the educational qualifications which would be required of the recruits. At the close of the year a decision had been provisionally made to develop two classes, one to be called Health Assistant—so avoiding the term Sanitary Inspector which the African has come to associate, in view of previous holders of the title, with boys whose duty it was merely to supervise scavenging—and a second to be named Sanitary Orderly. It was hoped to draw the Health Assistants from Africans having the same standard of education as those entering Makerere College for training as Senior African Medical Assistants. The other class of Sanitary Orderly was to be drawn from boys who had passed the Fourth Standard in the Middle Schools and had, therefore, a sufficient knowledge of Enlish to allow of instruction being given in that language. For the training of these boys a new appointment was inserted in the 1935 Departmental Estimates of an Instructor in Hygiene whose qualifications would be those of a Sanitary Inspector with, if possible, additional practical knowledge of building and planning. (It may be said here that further consideration of the problem of this health staff has led to a revision of these ideas and it is probable that the instruction to be given to the Sanitary Orderlies will be of a more advanced character than was originally visualised. The class of Health Assistant will be abandoned and instead of this, provision will be made in the period of training of Senior African Medical Assistants for instruction in Public Health and Preventive Medicine, while selected assistants will be given the opportunity of taking post-graduate instruction in health work with a view to their obtaining eventually a certificate in Public Health to fit them for posts as sub-district health officers.)

4. A Public Health Ordinance was drafted during the year and is now under consideration by Government. Inspections of townships and of the little groups of cotton-buying stores and *dukas* which have grown up in various parts of the Protectorate but which are not large enough to be called townships, have impressed all members of the Department with the urgent need of some measure of legal control in regard to the sanitation of these places. The Indian bazaars in townships are usually the most difficult areas to keep under sanitary control. Constant supervision is necessary to ensure general cleanliness and this is largely due to the overcrowded condition of the bazaar area. No provision exists even in the Township Rules to prevent the sub-division of plots other than the forbidding of the erection of a dividing fence, a rule which is usually not enforced on account of a general feeling that it is a hardship imposed on the occupiers and not on the owner of the plot. It is hoped that when the Public Health Ordinance is passed, the development of bazaar areas will be controlled so as to ensure that the present difficulties do not arise in the future.

5. In the cotton growing areas of the Protectorate particular attention has been given by Medical Officers to the housing of labour and the general sanitation of ginneries and ginnery camps. The details of the various measures which have been advocated are dealt with in a later section of the report but it may be said that, although definite instructions only went out from the Administration just before the commencement of the ginning season, a praiseworthy effort was undoubtedly made by

the majority of ginners to carry out improvements and to conform to the minimum standards which have been laid down as essential. It is largely as a result of this campaign that the question of night soil disposal has become acute. In many ginneries the 20-feet depth which has been laid down as the ideal for the pit latrine is not obtainable owing to the rocky nature of the soil. In such cases the introduction of buckets and the disposal of the night soil in shallow trenches was advocated as an alternative measure. It is, however, difficult to ensure adequate supervision of conservancy gangs at ginneries by ginnery managers who have their time fully occupied in running the ginnery and the buying store, and the bucket system is not a method which is likely to prove satisfactory as a solution of the general question of night soil disposal at such places. Various experiments are in progress in different parts of the Protectorate with a view to modifying pit latrine practice in such a way as to solve the problem and it is hoped that during the coming year some general method which the Department can approve will be evolved.

6. Maternity centres have been supervised to a greater extent this year than previously and a lively interest has been taken in maternity and child welfare work not only by the members of the Department but by a great many other people, many of whom belong to the unofficial community. Details of the new centres are given in a later section of the report to which reference should be made. The African has, however, shown a greater response to the institution of child welfare clinics than to the use of maternity centres and at many of the former which were opened in 1933 or during the year under review very large attendances of mothers with healthy babies who have come for advice were maintained. This side of the Department's activities is one which there is every hope of developing still further as it becomes possible to post European Sisters to each district of the Protectorate. It is noticeable that in those places where Sisters have been posted during the year the attendances at clinics have increased and been maintained to a surprising extent. More important still, perhaps, one may say that the advent of the Sister has led to more thorough investigation and treatment of cases of ill-health in babies than was possible in the past.

7. The position of the Protectorate in regard to the spread of infectious or communicable diseases is much the same as in the past. The outbreak of cerebro-spinal meningitis in Ankole District has happily almost disappeared. Typhus is definitely on the wane in the Kigezi District as the result of measures which have been taken there to deal with lice amongst the general population, and the threat of its spread to other parts of the Protectorate has been materially reduced.

8. Trypanosomiasis gave rise to little anxiety in most parts of the country with the exception of the Aringa County of the West Nile District, where a larger number of new cases were reported during the year than in 1933. It is possible, however, that this is due to a more intensive investigation of the population at risk by the institution of a continuous survey by a special staff, who go from gombolola to gombolola and inspect the people at regular intervals. New measures designed to control tse-tse fly in this area have been instituted during the year as a result of a visit from Mr. Chorley, the Sleeping Sickness Inspector of the Buganda Province. It is possible that as a result of his suggestions many of the clearings which are now maintained can be eliminated but the problem of control is complicated by the conduct of the people themselves who persist in seeking shade while herding their cattle or while washing clothes in cleared areas. Until it is possible to persuade them that any place at which they are bitten by tse-tse fly is a danger to their health it is difficult to prevent the people becoming infected. This attitude of the people is partly due to the African's fatalistic outlook on life and partly undoubtedly to the implicit faith he places in the efficacy of injections given intravenously. He has lost his fear of the disease because he realises that so long as he seeks treatment in the early stages of his illness he is almost certain of cure.

9. Yaws is widespread in a large area of the Protectorate. In those places where it affects a large percentage of the population measures have been taken during the year to institute an itinerant dispensary in charge of an African Nursing Orderly. The procedure is for the District Medical Officer to make a survey of the population of several neighbouring gombololas, the names of those suffering from yaws being recorded. The orderly thenceforward makes a weekly or bi-weekly visit to these gombololas and gives bismuth injections to all the people who appear on the list. Should anyone be absent, the Chief makes it his business to discover the reason and

to ensure that the defaulter shall attend the next session. In this way it is hoped that people suffering from yaws will receive an adequate course of treatment, which is not the case at present when they do not realise the necessity of regular attendance for treatment at dispensaries once obvious lesions have disappeared.

10. Malaria, which exists with very few exceptions in all parts of the Protectorate, was not specially singled out for attention during the past year. Investigation is proceeding as to the possibility of increasing the habit of using quinine by its sale at cost price at Post Offices. Whether such a procedure will or will not have an effect on the malaria and blackwater fever rate in the country remains to be seen, but it is significant that the majority of the blackwater fever cases are derived from the poorer members of the Asiatic community who fear to take quinine in adequate doses during an attack of malaria on account of the danger they believe they run of the development of hæmoglobinuria.

11. No definite campaign has yet been carried out to deal with ancylostomiasis or any other helminthic disease because it is felt that until the use of latrines has been made more general as a result of propaganda and persuasion from Administrative and Medical Officers no great good would be obtained by mass treatment of the population. In certain places it will be possible during 1935, owing to the more or less universal use of latrines as a result of propaganda, to institute treatment on a large scale.

12. Attention has been drawn by various Medical Officers to the very large amount of preventable eye disease among the African population. Propaganda directed to the improvement of sanitary conditions and the proper scavenging of the areas immediately round people's houses will, it is hoped, during 1935 lead to a large reduction in the incidence of these diseases. Incidentally, a campaign for personal cleanliness may also reduce the very large amount of scabies which exists.

13. Another problem which particularly exercises the minds of Medical Officers in charge of hospitals is that of tropical ulcers owing to the length of time hospital accommodation is occupied by cases. It is to be feared, however, that these lesions will continue to occur until the general nutrition of the people is greatly improved, for experience and investigation have shown that in places where the people live on a diet which is adequate in protein, fat, carbo-hydrates, minerals and vitamins, ulcers are of rare occurrence. Where they do exist little can be done for the unfortunate patient, but it seems the general opinion of Medical Officers that the best method of dealing with ulcers is to leave the dressing on as long as possible so that the surface of the ulcer is disturbed but rarely.

14. The Research Conferences, which it was expected would be held at the end of 1934, were postponed in the first instance till March of 1935 and then till the end of that year. Investigation at the various laboratories as to the amount of work that had been done on the programmes arranged at the Research Conferences of 1933 revealed the fact that, owing partly to sickness and partly to the incidence of leave, it had been impossible for any institution to carry out more than a fraction of the research work which had been arranged for the year.

(A) Staff.

15. Principal Appointments, Promotions, Changes, etc.

Appointments:—

Dr. H. S. de Boer, M.C., to be Deputy Director of Medical Services	6-12-33
Dr. J. M. Semple, to be Senior Medical Officer	28- 3-34
Dr. W. Hood-Dye, to be Senior Medical Officer	18-11-34
Dr. A. R. Lester, to be Senior Medical Officer	26-11-34
Miss M. J. Mason, to be Stenographer and Confidential Secretary	1- 1-34
Miss E. Church, to be Nursing Sister	18- 1-34
Miss E. M. L. Bolton, to be Nursing Sister	9- 2-34
Miss M. L. Lock, to be Nursing Sister	9- 2-34
Miss S. Smith, to be Nursing Sister	22- 2-34
Miss M. C. Highley, to be Nursing Sister	9- 3-34
Miss N. D. Eggers, to be Nursing Sister	9- 3-34
Mr. T. Hughes, to be Sanitary Inspector	13- 4-34
Mr. F. Smith, to be Sanitary Inspector	12- 7-34
Mr. L. C. Bell, to be Assistant Superintendent and Dispenser	12- 7-34
Mr. G. Landmark, to be Sanitary Inspector	27-11-34

Acting Appointments :—

	From		To
Dr. L. D. Dennard, Medical Officer, to act as Senior Medical Officer, Busoga	1- 1-34	...	21- 1-34
Dr. N. J. Willans, Assistant Bacteriologist, to act as Senior Bacteriologist	1- 1-34	...	18- 1-34
Dr. H. S. de Boer, Deputy Director of Medical Services, to act as Director of Medical Services	29- 3-34	...	31-10-34
Dr. S. W. T. Lee, Senior Medical Officer, to act as Assistant Director of Medical Services	8- 3-34	...	28- 3-34
Dr. S. W. T. Lee, Senior Medical Officer, to act as Deputy Director of Medical Services	29- 3-34	...	27- 9-34
Dr. S. W. T. Lee, Senior Medical Officer, to act as Assistant Director of Medical Services	28- 9-34	...	2-10-34
Dr. C. R. Lutze-Wallace, Assistant Director of Medical Services, to act as Deputy Director of Medical Services	28- 9-34	...	31-10-34
Dr. R. S. McElroy, Medical Officer, to act as Senior Medical Officer, Buganda	24- 7-34	...	31-12-34
Miss G. R. Ibbs, Nursing Sister, to act as Senior Nursing Sister, Kampala Hospital	1- 1-34	...	31- 1-34
Miss E. A. McGill, Nursing Sister, to act as Senior Nursing Sister and Lady Superintendent of Nurses	3-11-34	...	End of year
Mr. H. M. W. Nicholson, Assistant Superintendent and Dispenser, to act as Storekeeper and Pharmacist ...	18- 4-34	...	End of year

Transfer :—

Dr. S. W. T. Lee, Senior Medical Officer, to Zanzibar as Senior Medical Officer ...	24-10-34

Promotions :—

Dr. C. R. Lutze-Wallace, Senior Medical Officer to be Assistant Director of Medical Services	15- 2-34
Dr. J. C. St.G. Earl, Medical Officer, to be Senior Medical Officer	24-10-34

Retirements :—

Mr. C. H. Marshall, F.R.C.S., Resident Surgical Officer	12- 1-34
Dr. H. R. Neilson, Senior Medical Officer	18-11-34
Mr. C. Chorley, Pharmacist	1- 2-34
Mr. H. Flint, M.B.E., Confidential Clerk	15- 7-34
Mr. P. J. L. Waters, Storekeeper	14- 8-34

Invalidings :—

Dr. K. T. K. Wallington, Senior Medical Officer	26-11-34

Resignations :—

Miss B. B. D. Edwards, Nursing Sister	1- 3-34

Honours : —

Mr. H. Flint, Confidential Clerk, to be a Member of the Most Excellent Order of the British Empire (Civil Division).

(B) List of Ordinances affecting Public Health, etc., enacted during the year.

16. Lunacy (Amendment) Ordinance, 1934.
Dangerous Drugs Ordinance, 1934.
A Public Health Ordinance was drafted, and is still under the consideration of Government.

Registration of Medical Practitioners and Dentists.

17. The Ordinance governing registration came into force on the 1st July, 1913, since when and up to the 31st December, 1934, the following have been placed on the Registers :—

Registered Medical Practitioners	172
Registered Medical Practitioner and Dentist	1
Dentists	7
Licensed Medical Practitioners	90

18. The numbers actually on the Registers on the 31st December, 1934, were as follows :—

Registered Medical Practitioners	83
Dentists	7
Licensed Medical Practitioners	35

Registration of Midwives

19. The Ordinance governing registration came into force on the 31st March, 1927, since when and up to the 31st December, 1934, the following have been placed on the Registers:—

Europeans and Asiatics	69
Africans	190

20. The numbers actually on the Registers on the 31st December, 1934, were as follows:—

Europeans and Asiatics	47
Africans	181

(C) Financial.

21. The expenditure on medical services during the year was £140,674 11s. 91cts., which represents 9·2 per cent. of the total revenue of the Protectorate.

22. The total revenue of the department was £18,728 5s. 25cts.

SECTION II.—PUBLIC HEALTH.

(A) General Remarks.

23. *Establishment.*—During the year, the distinction between the Medical and Health Divisions was abolished; the two posts of Deputy Director of Medical Service and Deputy Director of Sanitary Service were replaced by those of Deputy Director of Medical Services and Assistant Director of Medical Services, while the title of Director of Medical and Sanitary Services was changed to Director of Medical Services. The establishment of Nursing Sisters was increased from eighteen to twenty, and of Sanitary Inspectors from seven to ten. The number of Sub-Assistant Surgeons was reduced from twenty-one to fifteen, their places being taken by Senior African Medical Assistants who at the end of the year numbered nineteen, as compared with fifteen in 1933. A special grade African Laboratory Assistant, who had been trained at the Medical Research Laboratory, Nairobi, was appointed during the year mainly for the purpose of improving the tuition of Africans in laboratory work.

24. *Returns for the Year.*—The returns for 1934 are compared with those of previous years in the following table:—

	1929.	1930.	1931.	1932.	1933.	1934.
New Cases	613,489	642,349	661,658	684,835	743,719	831,240
Cases admitted as in-patients to hospitals or dispensaries ...	25,373	29,063	28,525	24,072	30,185	33,200
Total Attendances	2,590,394	2,762,948	2,842,769	3,016,851	3,045,074	3,209,315
Surgical Operations ...	2,563	2,799	3,850	3,514	4,908	4,796

25. The percentage of females to the total number of cases was 37·8, and the number of women attending hospitals and dispensaries increased by over 20,000.

26. *Cases by Races.*—

	1933. New Cases.	1933. Admissions.	1934. New Cases.	1934. Admissions.
European	2,416 ...	406	3,135 ...	398
Asian	7,379 ...	661	7,783 ...	844
African	733,924 ...	29,118	820,322 ...	31,958
	743719	30185	831240	33200

27. Of the 84 dispensaries in use at the end of 1933, Bubulu was, for 1934, classed as a station hospital, five new centres were opened and one was closed during the year, making a total of 87 dispensaries at the end of the year. There are maternity wards at Serere Dispensary in Teso, and Kibale Dispensary in Mubende District. In addition, a Maternity Centre was opened at Bugembe in Busoga. It is hoped to open new centres at Namwendwa, Kamuge and Butaleja in 1935.

28. The following table shows the number of cases (including examinations) seen at station hospitals and dispensaries:—

	New Cases.	Re-attendances.	
Hospitals ...	368,149 ...	774,187	
Dispensaries ...	613,006 ...	1,453,973	
TOTAL ...	981,155 ...	2,228,160	Total Attendances ... 3,209,315

29. *Deaths in Hospitals.*—The principal causes during the last five years were :—

	1930.	1931.	1932.	1933.	1934.
Total deaths in hospital	1,313*	1,236*	1,264*	1,357*	1,550*
Pneumonia	313	274	279	285	356
Accidents	137	116	115	133	143
Plague	50	19	40	52	29
Syphilis	69	48	41	48	55
Dysentery	21	37	26	25	28
Malaria	80	81	50	57	107
Tuberculosis	44	56	66	66	89
Cerebro-Spinal Meningitis	14	22	15	14	43
Cancer	6	13	4	8	17
Child Birth	40	44	28	66	67

*Still-births excluded.

30. While the number of deaths from pneumonia increased in 1934, the number of admissions was also higher. The case mortality from this disease was 21·31% in 1933 and 22·23% in 1934.

31. The number of deaths in child birth was high, but, as noted later in this Report, many women were admitted to hospital in a hopeless condition after being in labour for three or four days. The number of women who were confined in hospitals was considerably greater than before, and the percentage of deaths was lower.

32. *Typhus Fever.*—As detailed later in this Report, the position, particularly towards the end of the year, showed a marked improvement.

33. *Acknowledgments.*—The number of persons not connected with the department who have, during the year, given assistance is so great that it would be invidious to single out individuals for special mention. This is particularly so with regard to the Infant Welfare and Health Exhibition, Kampala, where so many willingly gave their assistance and did so much to make it the success it was.

I. GENERAL DISEASES.

34. *Epidemic, Endemic and Infectious Diseases.*—The number of cases and deaths recorded in this group for the last five years is as follows :—

	Total cases all groups.	Epidemic, Endemic and Infectious diseases. Cases.	Deaths.	Percentage of this group to all groups. Cases.	Deaths.
1930 ...	642,349 ...	181,981 ...	426 ...	29 ...	31·4
1931 ...	661,658 ...	193,005 ...	397 ...	29 ...	31·0
1932 ...	684,835 ...	201,062 ...	348 ...	29 ...	25·7
1933 ...	743,719 ...	207,905 ...	423 ...	28 ...	31·2
1934 ...	831,240 ...	233,001 ...	506 ...	28 ...	32·6

35. Of the increased number of cases in this group, malaria accounts for over 11,000. This is discussed elsewhere.

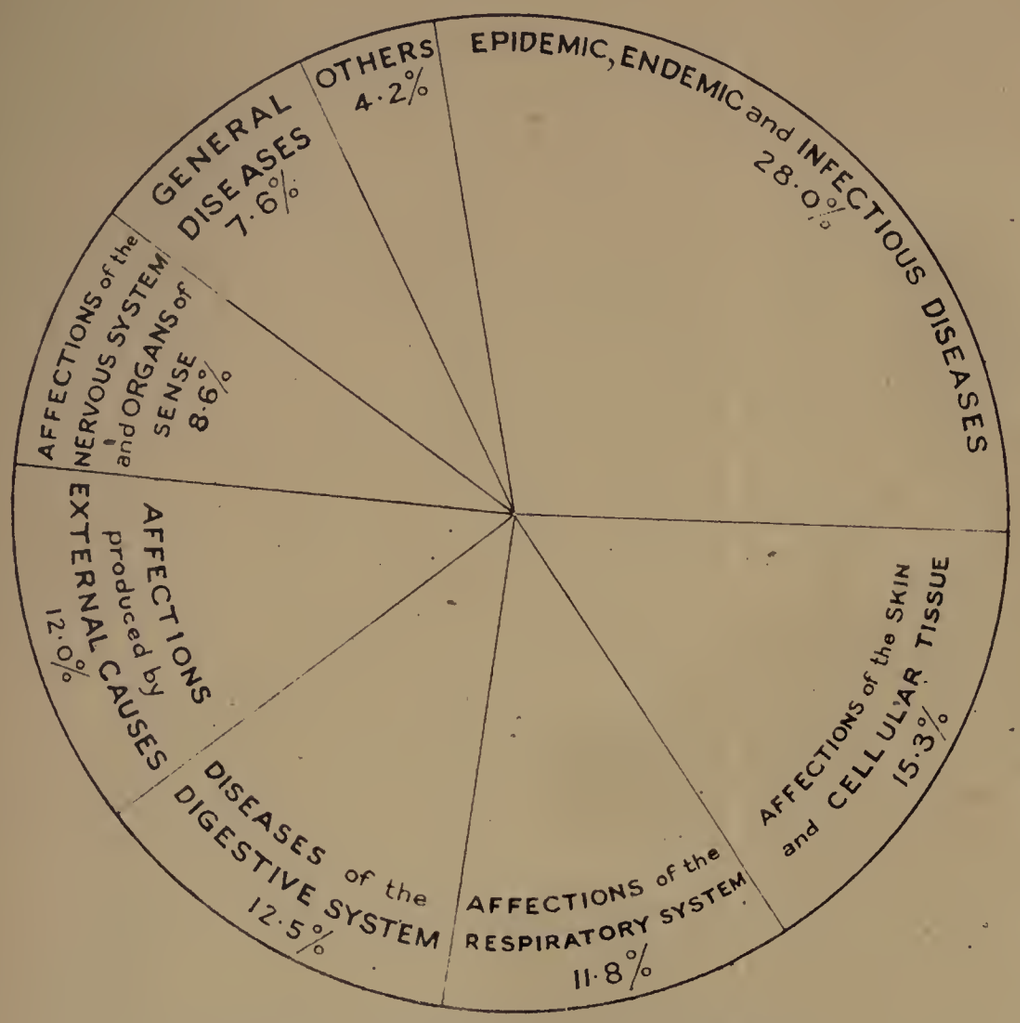
36. *General Diseases.*—62,870 cases were recorded, compared with 51,470 in 1933, and 46,662 in 1932. The increase is partly due to 3,200 prisoners who were inoculated against typhoid fever in Luzira Gaol, and who had severe reactions. The number of cases of myalgia is also greater by nearly 7,000. There were 149 cases of cancer, compared with 56 in 1933. There is no reason to believe that the incidence of this disease is increasing; the larger number is due to greater facilities for accurate diagnosis.

37. *Affections of the Nervous System and Organs of Sense.*—The number of cases was 71,416. The larger number of cases of eye and ear disease accounts for most of the increase of 6,000 over the figure for 1933. The amount of preventable eye disease in many districts of the Protectorate is appalling, and it is a lamentable fact that, as a result of the apathy of sufferers whereby treatment to the standard of cure is not persevered with, partial or complete blindness is all too common a result.

38. The number of deaths in this section was 40 (19 fewer than last year). Fourteen were due to meningitis.

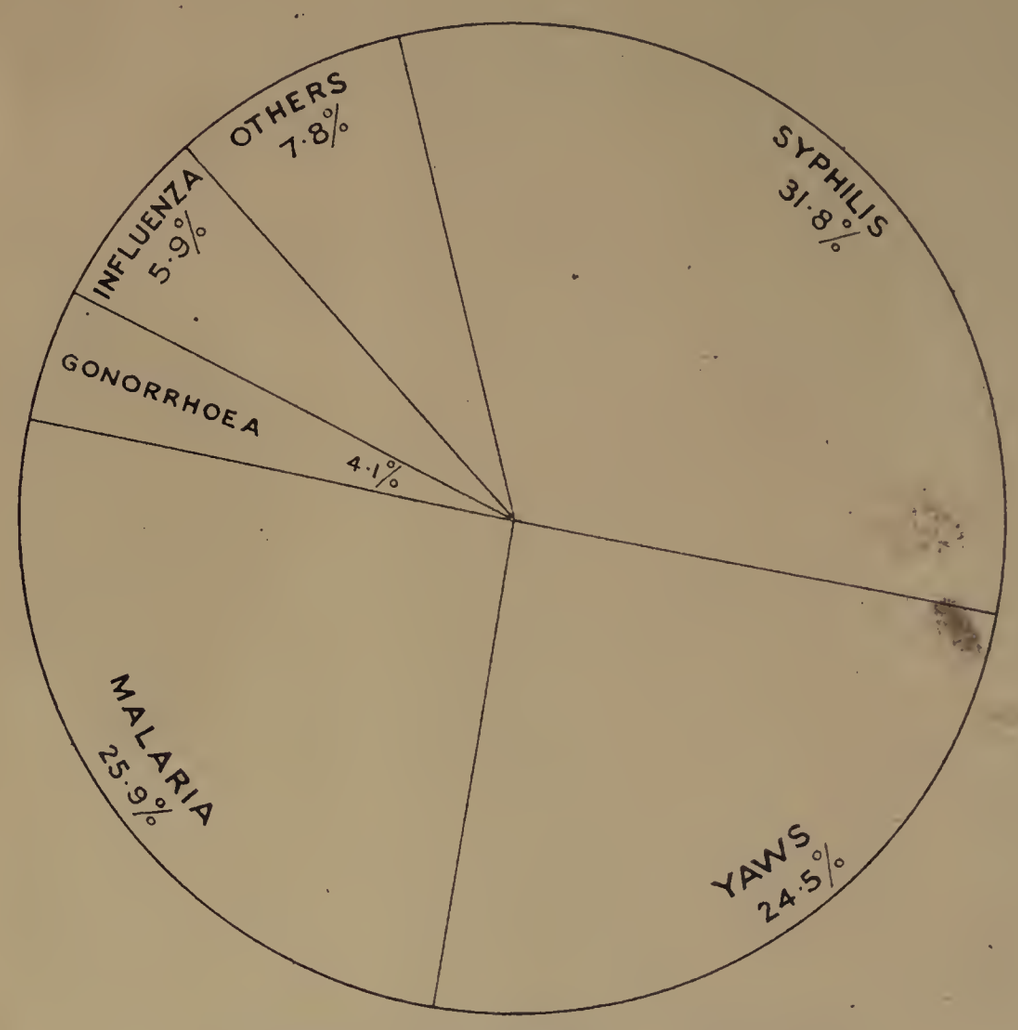
39. *Affections of the Circulatory System.*—4,923 cases with 38 deaths, compared with 3,781 and 36 deaths in 1933, are recorded.

THE PROPORTION OF EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMIC AND OTHER DISEASES SHOWN AS PERCENTAGES OF TOTAL CASES

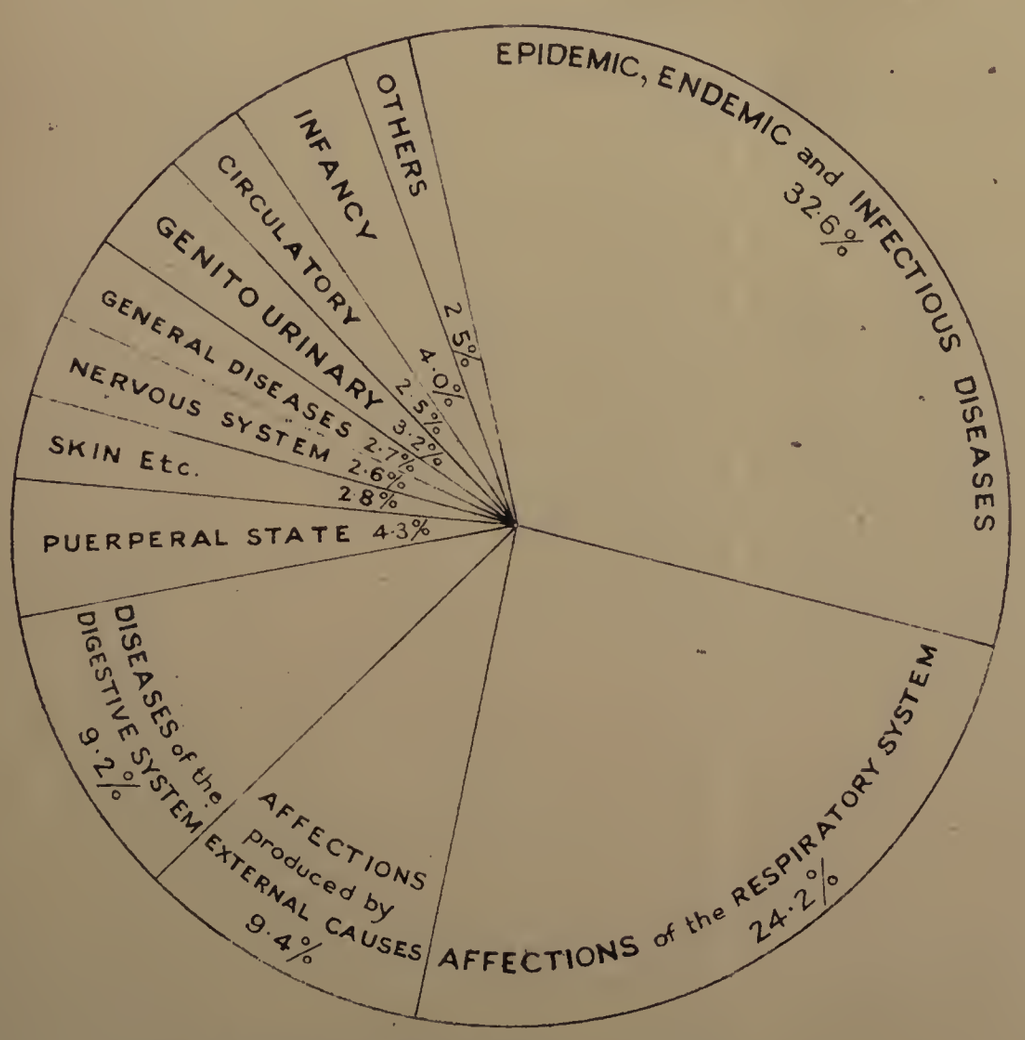


TOTAL INCIDENCE :- 831,240

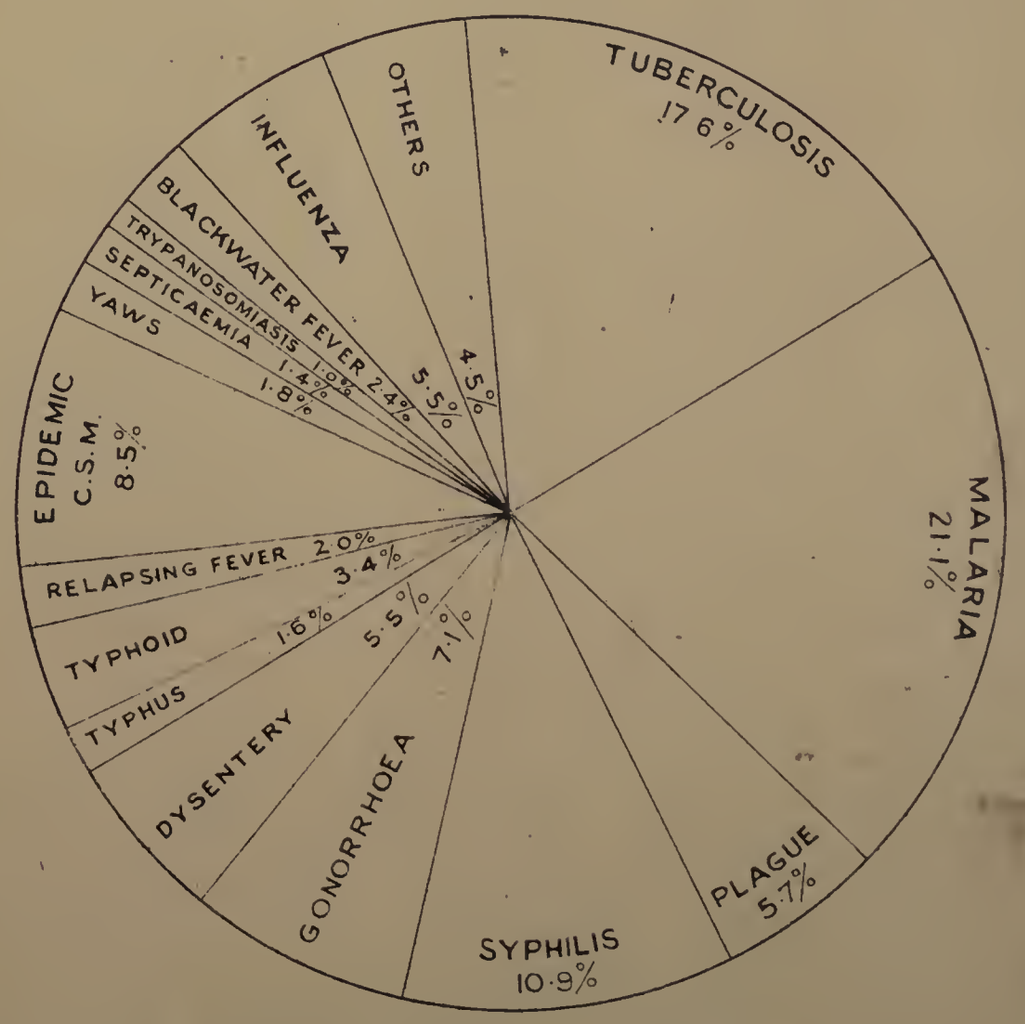
THE PROPORTION OF EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES



TOTAL INCIDENCE :- 233,001



TOTAL DEATH :- 1,550



TOTAL DEATH :- 506

40. *Affections of the Respiratory System.*—98,269 cases with 374 deaths were reported under this heading. This is an increase of nearly 5,000 and 62 respectively. Pneumonia alone, a most fatal disease among Africans, accounts for 356 deaths, or 22·9 per cent. of all deaths in hospitals.

41. *Diseases of the Digestive System.*—The number increased from 93,866 in 1933 to 104,379. Larger numbers of nearly every disease in this group were treated.

42. *Diseases of the Genito-Urinary System.*—There was a small increase to 3,911, of whom 1,706 were women.

43. *Puerperal State.*—The table below shows the number of new cases in the last five years:—

	1930.	1931.	1932.	1933.	1934.
Women who attended for ante-natal supervision	2,753	3,760	7,254	12,110	12,828
Number of attendances of women for ante-natal supervision	—	—	—	—	33,107
Women who attended for conditions connected with the puerperal state	997	993	1,356	2,050	2,064
Women admitted to hospital for child birth	472	620	786	853	1,101
Babies born in hospital	472	591	758	822	979

44. While there were only small increases in the numbers shown, the work done in the previous years was being consolidated. Further reference is made to this subject and to Infant Welfare in Section V.

45. *Affections of the Skin and Cellular Tissues.*—127,257 cases, as compared with 111,413 during the previous year, were dealt with. Scabies and ulcers were the main cause of the increase.

46. *Diseases of the Bones and Organs of Locomotion.*—There were 3,839 cases—an increase of 656.

47. *Malformation.*—Eleven cases were returned.

48. *Post-Natal Supervision and Diseases of Infancy.*—

1930.	1931.	1932.	1933.	1934.
841	878	1,390	2,206	3,029

49. These numbers include normal infants, both those born in hospital and those brought up for supervision to welfare clinics, but exclude still-births. The large increase in numbers in the last three years shows a welcome awakening of interest in their babies' welfare among the mothers of the country.

50. *Diseases of Old Age.*—Sixty-four cases were seen.

51. *Affections Produced by External Causes.*—98,971 cases were treated, as against 88,572 in the previous year. Of these cases, nearly 3,000 were due to the bites, kicks, etc., of animals, 1,891 of which accidents occurred in the Lango District.

52. *Ill-defined Diseases.*—2,066 cases were recorded.

II. COMMUNICABLE DISEASES.

(a) Mosquito or Insect-borne.

53. *Trypanosomiasis.*—The following table shows the number of new cases and number of reported deaths for the last thirty years:—

Year.	Reported Deaths.	Year.	Reported Deaths.	Year.	Reported Deaths.	New Cases.
1905	8,003	1915	352	1925	209	153
1906	6,522	1916	209	1926	123	372
1907	4,175	1917	229	1927	79	496
1908	3,662	1918	235	1928	67	1,024
1909	7,782	1919	109	1929	78	3,349
1910	1,546	1920	69	1930	51	727
1911	1,487	1921	32	1931	117	513
1912	932	1922	31	1932	85	536
1913	708	1923	16	1933	109	693
1914	466	1924	194	1934	127	773

54. The above figures include suspected cases as well as those diagnosed by microscope. In 1934, 59 of the cases were not diagnosed by the microscope.

55. The distribution of new cases for the last five years has been :—

	1930.	1931.	1932.	1933.	1934.
West Nile	596	433	317	495	615
Gulu	34	12	14	9	22
Madi	32	32	21	22	21
Chua	38	11	29	23	24
Lake Edward—George area	—	10	144	130	81
Lake Victoria area ...	26	15	11	4	—
Kigezi	—	—	—	—	1
Source of Infection uncertain	1	—	—	10	9

56. There were no fresh cases of infection with *T. rhodesiense*. All cases reported were of the *T. gambiense* type.

57. Of the 127 deaths (85 of which were in the West Nile) 115 occurred in the districts, the correctness of which number must be accepted with reserve, as the cause of death rests on the opinion of the chiefs. 252 cases were treated in hospitals with twelve deaths—a case mortality of 4·7 per cent.

58. *West Nile Sleeping Sickness Area.*—

	1930. Old.	1930. New.	1931. Old.	1931. New.	1932. Old.	1932. New.	1933. Old.	1933. New.	1934. Old.	1934. New.
Cases treated in Arua and Sub-dispensaries	32	198	—	59	14	29	30	48	25	46
Cases treated in Aringa and Sub-dispensaries	199	349	63	326	59	264	93	404	58	561
Cases treated at Junam Sub-dispensaries	—	49	108	48	8	24	36	43	3	8

59. *Aringa County.*—During the year, the continued occurrence of fresh cases in the area watered by the River Koich and its tributaries caused anxiety, and during August and September, Mr. C. W. Chorley, Sleeping Sickness Inspector, visited the area, and made certain recommendations for dealing with the situation. His suggestions were carried out, and, though by the end of the year it was too early to form an opinion, it is hoped that these measures will be successful in reducing the incidence of fly, and the contact between fly and man.

60. *Junam Area.*—During a survey of the inhabitants in November, eight new cases were found in Madi County. In this area as in the Aringa area, many illicit paths were being used by the people. There is a potential danger of this area becoming epidemic, and close supervision is essential.

61. *Gulu and Madi Sleeping Sickness Areas.*—The incidence during the last eight years has been :—

	1927. New.	1928. New.	1929. New.	1930. New.	1930. Old.	1931. New.	1931. Old.	1932. New.	1932. Old.	1933. New.	1933. Old.	1934. New.	1934. Old.
Gulu	...	116	84	34	25	12	71	14	25	9	26	22	12
Madi	167	36	36	32	370	32	94	21	387	22	314	21	393

62. The increased number of cases in Gulu is ascribed to the breaking of sleeping sickness regulations. Paths are made through closed areas, and rivers are crossed at other than authorised crossings, while fishing is also a source of danger.

63. Of the 22 new cases, seven came from Paicho County. Altogether eight deaths were reported, three in hospital and five in the district.

64. In Madi, four cases occurred in Moyo, five in Metuli and four in Metuṛu. Thirty-one deaths, of which one was in hospital, were reported. The Senior African Medical Assistant made the observation that 75 per cent. of the new cases were in young adult males, who, while grazing their cattle, come into contact with fly. The situation in Madi is considered satisfactory.

65. *Chua Sleeping Sickness Area.*—The following table shows the number of cases treated since 1928 :—

	1928. New.	1929. New.	1930. New.	1930. Old.	1931. New.	1931. Old.	1932. New.	1932. Old.	1933. New.	1933. Old.	1934. New.	1934. Old.
Kitgum ...	19	39	38	11	11	3	29	18	23	21	24	8

66. One death occurred in Lira Hospital.

67. Fourteen of the new cases occurred at Pader. The dispensary at that place is to be transferred to a new site as people attending it have to pass and repass an infected area.

68. *Lake Victoria Area.*—One new case, of a Munyaruanda, was reported from Masaka. It was suspected that his infection might be of the *T. rhodesiense* type, and he was sent to Mulago to be under observation of the laboratory, who, however, reported that the infection was with *T. gambiense.* The source of his infection was obscure, but was almost certainly not from the Lake Victoria area in which, therefore, no new cases occurred during the period under review. Eight cases were treated at Mulago, but they were sent in from various other stations, while nineteen cases were treated in Entebbe. One of these was apparently infected in the West Nile, while the rest were experimentally infected. All the latter made a rapid recovery, and, during the period of eight to twelve months since treatment, none have relapsed.

69. *Lake Edward-George Area.*—

	1931. New	1931. Old.	1932. New	1932. Old.	1933. New	1933. Old.	1934. New	1934. Old.
Cases seen at Fort Portal and Sub-dispensaries	10	21	144	9	130	18	81	44

70. These cases came from the infected areas of Busongora, near Lake Edward, and adjoining the Congo border. Several cases occurred on the Nyabolongo river. During June and July, Mr. Chorley made a survey, advised some extra clearings and instituted trapping of fly and destruction of pupæ. The attendants at Mpondwe and Kanyampara dispensaries make monthly examinations of the people while the Medical Officer makes a survey and does blood and gland examinations at his routine visits.

71. *Kigezi.*—In January, a case of sleeping sickness was admitted to hospital in Kabale. He was said to have lived in a village ten miles south of Kabale for at least five years. The Entomologist investigated the local conditions, and reported that no fly could be found anywhere near the man's home, and thought it possible that he might have come into contact with infected porters, carrying salt into the Congo, in the presence of some species of insect capable of transmitting trypanosomes mechanically. No danger of an outbreak of sleeping sickness in this area is anticipated.

72. *Plague.*—The number of cases and deaths reported, 977 and 937 respectively, is rather greater than last year. There was a large increase in the number returned from the Eastern Province where all districts were involved, but a considerable decrease in the number in Buganda though cases occurred in all districts except Mubende. There were no cases in the Kampala township. Lango was the only infected district in the Northern Province, while the Western Province was free.

73. *Deaths Reported from Plague since 1915.*—

1915	...	4,028	1920	...	1,732	1925	...	869	1930	...	2,370
1916	...	4,384	1921	...	5,871	1926	...	1,589	1931	...	2,299
1917	...	4,031	1922	...	1,305	1927	...	1,863	1932	...	990
1918	...	2,493	1923	...	914	1928	...	1,174	1933	...	833
1919	...	1,022	1924	...	810	1929	...	5,118	1934	...	937

74. *Distribution of Plague Cases by Districts.*—

	Cases.	Deaths.
Eastern Province:—		
Busoga	135	118
Bugwere	142	136
Bugishu	14	14
Budama	50*	49
Teso	5	3
	346	320
Buganda Province:—		
Mengo	339	331
Entebbe	30	30
Masaka	30	27
	399	388
Northern Province:—		
Lango	232	229
TOTAL FOR THE PROTECTORATE	977	937

*Including seven cases with six deaths in Tororo township.

75. *Relapsing Fever.*—There was a decrease in the number of cases reported, 1,135 cases with 13 deaths, compared with 1,387 cases and 14 deaths in 1933.

76. The number of cases returned yearly for the last few years is as follows:—

Year.	Cases.	Year.	Cases.	Year.	Cases.
1926 ...	1,507	1929 ...	1,879	1932 ...	1,336
1927 ...	2,000	1930 ...	884	1933 ...	1,387
1928 ...	2,494	1931 ...	871	1934 ...	1,135

77. The distribution of the disease for the last three years was:—

	1932.	1933.	1934.
Western Province:—			
Toro	17	28	18
Kigezi	101	46	45
Ankole	503	856	958
Buganda Province:—			
Masaka	477	323	87
Mubende	120	94	7
Mengo	88	24	16
Entebbe	7	7	—
Northern Province:—			
Bunyoro	13	5	1
Lango	—	—	1
Eastern Province:—			
Busoga	10	3	2
Soroti	—	1	—
TOTAL	1,336	1,387	1,135

78. The majority of cases occurred, as usual, among immigrants travelling through districts, particularly Ankole, heavily infected with *O. moubata*. The decrease in the number of cases in Masaka and Mubende is possibly due to the immigrants not coming through Ankole, or to their not sleeping in that district. With the great increase in motor transport, many of them can now board motor omnibuses in Kigezi and journey right through to Buganda. The cases occurring in Lango and Busoga were definitely stated not to be infected locally, while that occurring in Bunyoro was a prisoner confined in a Native Administration gaol, which was searched in vain for ticks.

79. The Senior Medical Officer, Buganda, however, stated that there is a definite tendency of *O. moubata* to spread from the Ankole and Masaka districts particularly by way of Native Administration gaols.

80. As detailed in the report of the Entomologist (Appendix II), a spray against ticks devised by the Entomological section will shortly be submitted to tests in the field. If this is successful, it will remove a serious menace to the health of the Protectorate.

81. *Typhus.*—103 cases with eight deaths were reported in 1934; of these, 88 cases occurred up to the end of May and only fifteen from that date until the end of the year. All cases came from Kigezi. The preventive measures taken are referred to in a later section.

82. *Malaria.*—60,229 cases with 107 deaths, an increase of 11,527 and 50 respectively, were returned in 1934.

83. The distribution by Provinces was as follows:—

	Buganda.		Eastern Province.		Western Province.		Northern Province.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1933 ...	16,910	... 19	14,861	... 18	8,583	... 9	8,348	... 11
1934 ...	18,756	... 37	22,767	... 34	9,693	... 24	9,013	... 12

84. *Malaria in the Eastern Province.*—While more cases than last year were diagnosed in each province, the larger number reported from the Eastern Province accounts for two-thirds of the total increase. Many more cases were reported from the

sub-dispensaries (where diagnosis is not so accurate) than from the station hospitals, as the following table shows:—

	Tertian.	Quartan.	Aestivo-Autumnal.	Clinical.	Mixed Infections.	Cachexia.	Total.
Jinja	43	112	1,098	1,300	40	1	2,594
Namasagali ...	4	...	164	155	1	...	324
Tororo ...	104	4	469	660	2	5	1,244
Mbale ...	4	32	162	964	...	...	1,162
Bubulu ...	1	16	22	966	...	...	1,005
Soroti ...	98	111	389	1,473	...	...	2,071
Moroto ...	13	...	...	119	...	...	132
Total ...	267	275	2,304	5,637	43	6	8,532
All dispensaries, Eastern Province ...	...	...	3	14,232	...	...	14,235

85. Even at the station hospitals, little more than one-third of the cases were microscopically proved.

86. There is no reason to suppose that, in this province, malaria was more prevalent than formerly and no medical officer reported an epidemic. The larger number of cases was probably due to more accurate diagnosis, and a greater desire on the part of the African to seek treatment. In addition, a great deal more infant welfare work was done during 1934, and, as few African children escape infection in the early years of their life, no doubt cases detected in children helped to swell the total.

87. *Deaths.*—The number of deaths in hospital was nearly double that of last year, the main increase being in Masaka and Kabale. The medical officers concerned reported that the majority occurred in debilitated immigrant Banyaruanda labourers.

TABLE I.

The following table shows the incidence of malaria compared with all diseases in each province, and the number of cases per thousand population:—

	1930	*1931*	*1932*	*1933*	*1934*
Buganda Province:—					
Cases of malaria	22,067	23,002	19,263	16,910	18,756
Rate per 1,000 cases all diseases ...	133	139	119	104	103
Rate per 1,000 population	25	26	22	19	21
Eastern Province:—				861	
Cases of malaria	10,138	12,230	10,673	14,733	22,614*
Rate per 1,000 cases all diseases ...	42	45	42	55	80*
Rate per 1,000 population	7	9	9	12	19*
Western Province:—					
Cases of malaria	8,337	8,394	9,169	8,583	9,693
Rate per 1,000 cases all diseases ...	89	88	80	80	70
Rate per 1,000 population	12	12	13	12	13
Northern Province:—					
Cases of malaria	6,082	6,554	8,845	8,348	9,013
Rate per 1,000 cases all diseases ...	75	75	69	65	72
Rate per 1,000 population	12	14	11	11	11
TOTALS FOR PROTECTORATE:—					
Cases of malaria	46,624	50,180	47,950	48,574	60,076*
Rate per 1,000 cases all diseases ...	75	75	69	65	72*
Rate per 1,000 population	13·6	14·4	13·6	13·7	16·8*

* Karamoja is excluded from the above figures and calculations.

89. *Blackwater Fever.*—The following table shows the incidence of blackwater fever during 1934:—

	Males.		Females.	
	Cases.	Deaths.	Cases.	Deaths.
Europeans	8	3	4	1
Asians	100	26	23	6
Africans	9	3	—	—
TOTAL	117	32	27	7

Total Cases 144 deaths 39.

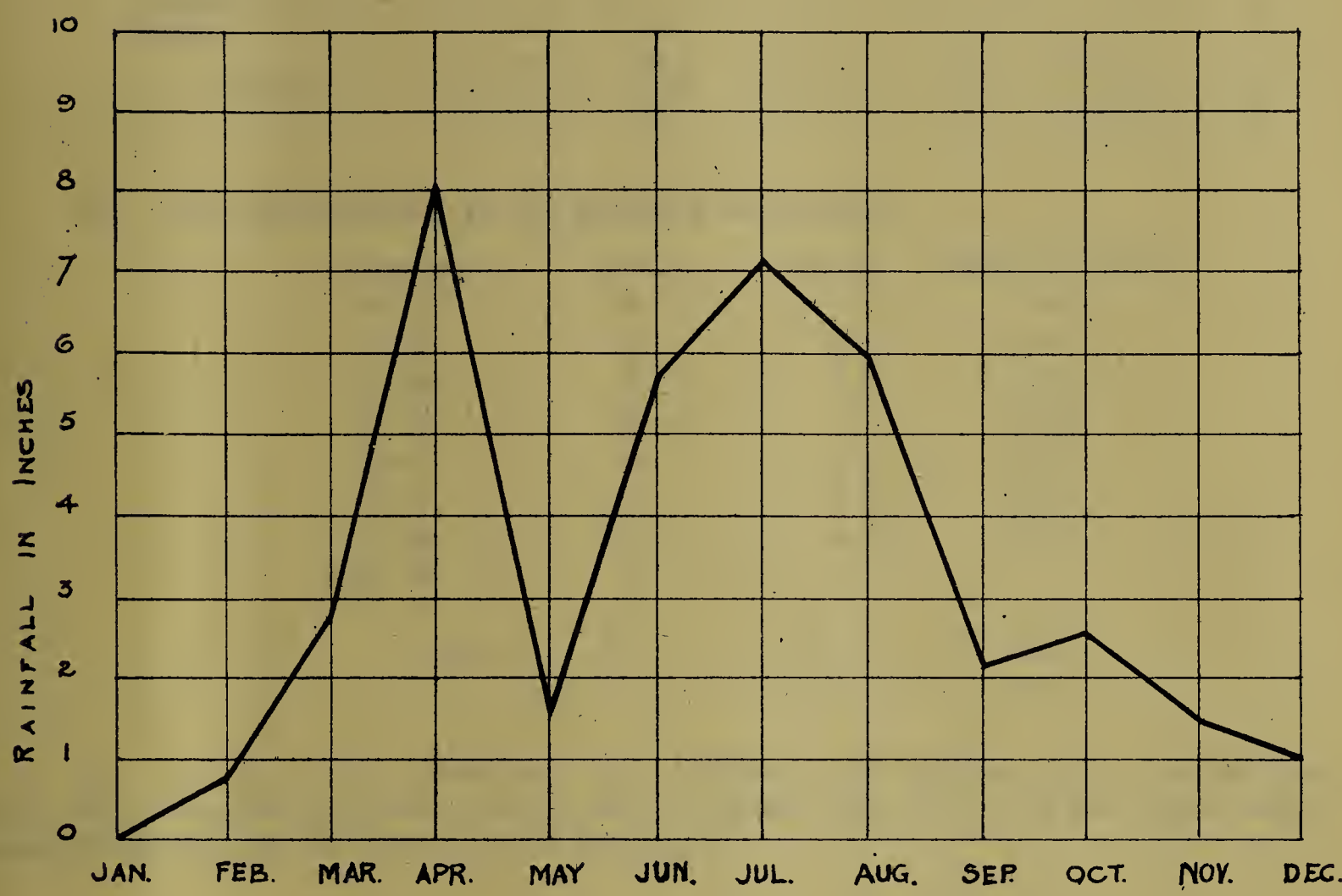
90. During 1933 there were 146 cases with 41 deaths, comprised of seven Europeans with one death, 136 Asians with 40 deaths, and three natives, all of whom recovered.

91. Of the 144 cases during 1934, 65 with 17 deaths were treated by Government medical officers (37 with 12 deaths in hospital) and the remainder by private practitioners.

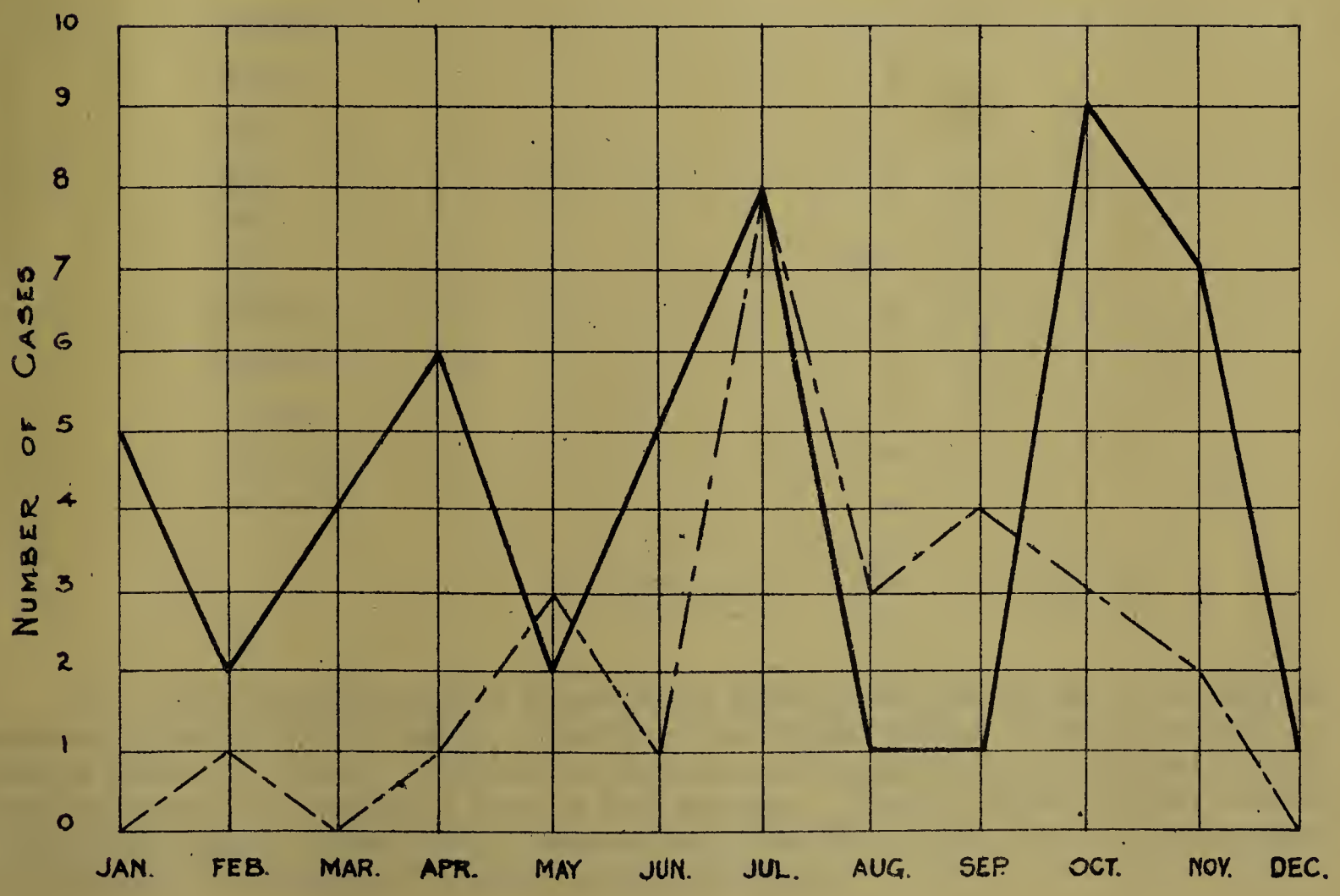
92. The incidence by provinces and stations over a six-year period is as follows (Africans are not included in any of the following tables):—

Buganda Province:—	1929.	1930.	1931.	1932.	1933.	1934.
Kampala	34	29	35	34	43	40
Bombo	—	—	—	—	—	1
Entebbe	1	5	2	3	1	2
Masaka	2	—	1	3	4	—
Lugazi	—	5	8	4	8	2
Mubende	—	—	—	—	—	1
Nkokonjeru	—	—	—	—	—	1
District	—	7	16	—	—	—
TOTAL	37	46	62	44	56	47
Eastern Province:—						
Jinja	13	21	11	17	10	15
Kaliro	—	6	—	2	—	7
Kamuli	—	—	—	5	7	6
Namasagali	6	6	5	5	11	7
Mbulamuti	—	—	—	—	—	2
Iganga	—	2	3	—	—	—
Tororo	12	2	12	5	14	3
Mjanji	—	—	—	—	—	1
Nagongera	—	—	—	2	1	—
Mbale	12	11	13	10	14	26
Soroti	14	8	8	9	9	7
Serere	—	—	—	—	—	1
Ngora	—	2	5	9	3	—
District	—	6	16	—	1	—
TOTAL	57	64	73	64	70	75
Northern Province:—						
Arua	1	7	2	1	1	—
Hoima	—	2	—	2	2	—
Masindi	1	3	3	—	1	1
Masindi Port	—	—	—	—	1	—
Butiaba	1	—	—	1	—	2
Gulu	1	1	7	2	1	2
Gulu District	—	—	—	—	—	2
Moyo	—	—	—	1	—	—
Kitgum	1	1	1	2	1	—
Lira	10	13	8	5	3	—
Kaberamaido	—	—	—	—	3	1
Kachung	—	—	—	—	—	1
Kelle	—	—	—	—	—	1
Aduku	—	—	—	—	2	—
Lango District	—	—	—	—	—	1
TOTAL	15	27	21	14	15	11

GRAPH SHOWING THE RAINFALL, CASES OF MALARIA AMONG EUROPEAN & ASIATIC OFFICIALS, & CASES OF BLACKWATER FEVER AT MBALE DURING 1934.

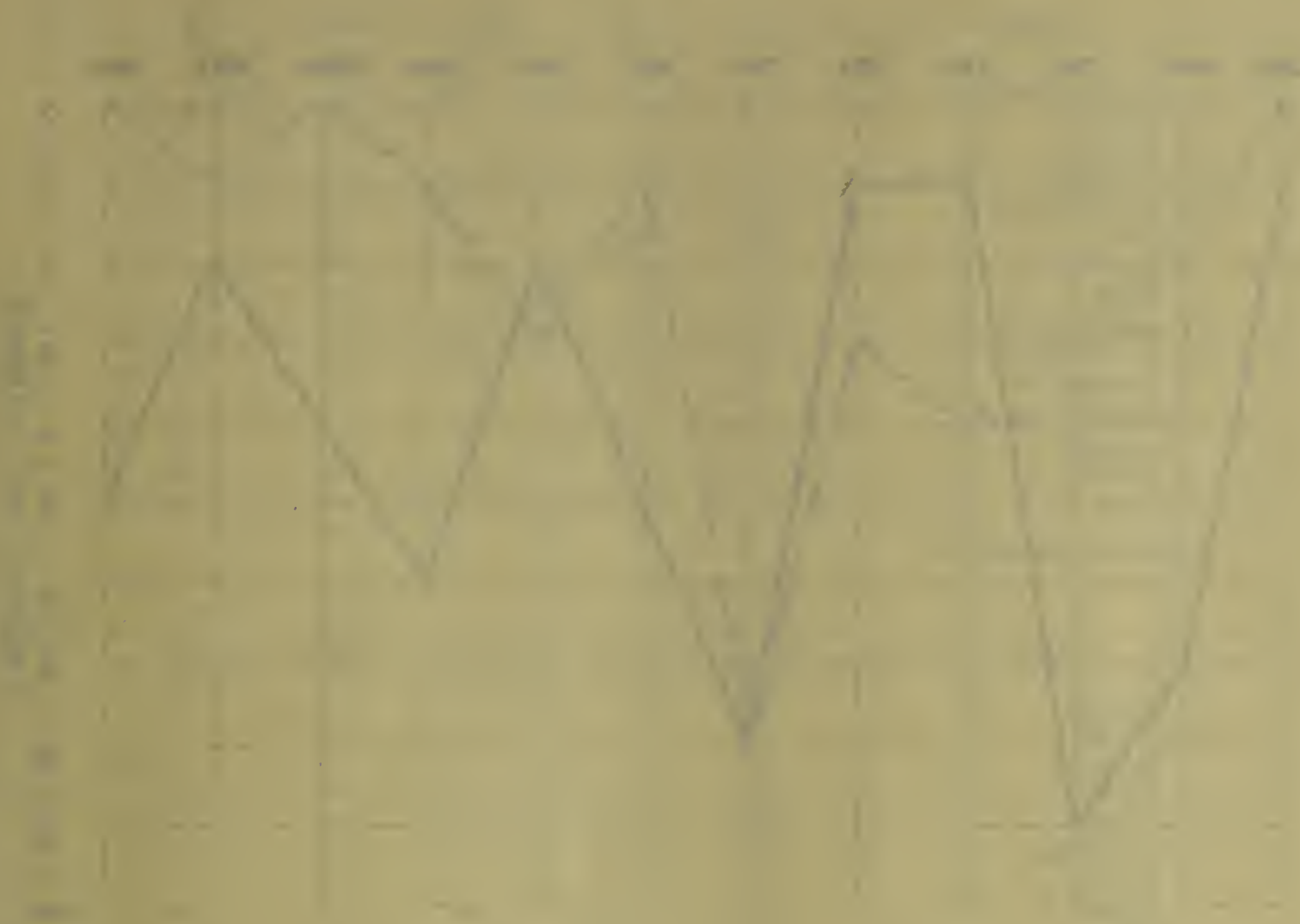


Rainfall in Inches



Firm Lines. Cases of Malaria among European & Asiatic Officials.
Broken Lines. Cases of Blackwater Fever.

DO. RM.D



Western Province :—	1929.	1930.	1931.	1932.	1933.	1934.
Mbarara	1	5	1	1	—	—
Fort Portal	—	—	3	—	2	—
District	—	5	1	—	—	—
Kabale	—	—	—	—	—	2
TOTAL	1	10	5	1	2	2

93. The case incidence in age groups is as follows :—

Age group.	Cases.	Deaths.	Percentage mortality.
0— 5 ...	6	—	—
6—10 ...	12	2	16·6
11—15 ...	8	1	12·5
16—20 ...	16	5	31·2
21—30 ...	58	16	27·5
31—40 ...	21	6	28·5
41—50 ...	12	6	50·0
Over 60 ...	2	—	—
TOTAL ...	135	36	26·6

94. Of the twelve Europeans who contracted the disease and of whom four died, two were over 60, and six over 40. Of these, two died. In the above table, amongst all cases, 41-50 was the most fatal age.

95. There were two cases in European officials and three in Asian officials of the Kenya and Uganda Railway.

96. The months in which cases occurred were as follows :—

	Cases.	Deaths.
January	14	6
February	12	1
March	3	1
April	4	0
May	14	4
June	6	2
July	29	11
August	16	3
September	7	1
October	7	1
November	15	5
December	8	1
TOTAL ...	135	36

97. The attached graph of records from Mbale shows the rainfall in inches, the number of cases of malaria among European and Asian officials, and the number of cases of blackwater fever. The heaviest rainfall was in April and was followed in July by an increase in the number of cases of both diseases. There was also a heavy rainfall in July followed in October by the heaviest incidence of malaria. There was, however, no increase in the number of cases of blackwater fever.

Table II.

Case Incidence, Mortality and Fatality Rates from 1918—1934.

	1918-1922	*1923-1927*	*1928-1932*	*1933*	*1934*
Yearly average population:—					
European	1,357	1,614	1,990	1,811	1,854
Asian	4,716	9,221	13,337	14,061	14,204
Total	6,073	10,835	15,327	15,872	16,058
Cases of blackwater fever during the period:—					
European	63*	72	70	7	12
Asian	214*	421	612	136	123
Total	317	493	682	143	135
Deaths from blackwater fever during the period:—					
European	17*	16	14	1	4
Asian	40*	120	159	40	32
Total	64	136	173	41	36
Case incidence per 1,000 population:—					
European	13·53†	8·92	7·04	3·86	6·47
Asian	10·64†	9·13	9·18	9·67	8·65
Total	10·93	9·10	8·90	9·01	8·40
Mortality rate per 1,000 population:—					
European	3·65†	1·98	1·41	0·55	2·15
Asian	1·99†	2·60	2·38	2·84	2·25
Total	2·21	2·51	2·26	2·58	2·24
Percentage fatality rate:—					
European	26·98	22·22	20·00	14·28	33·33
Asian	18·69	28·50	25·98	29·41	26·01
Total	20·20	27·59	25·37	28·67	26·66

* Cases for 1918 not differentiated and omitted. † Population and cases for 1918 omitted in calculation.

The figures for Asians show some improvement in every particular over last year while those for Europeans show a reversion to the figures of previous periods. In 1933 there were, however, exceptionally few cases amongst the latter.

99. The case incidence of blackwater fever by Provinces is shown in Table III, and it will be seen that the disease has a relatively greater frequency in the Eastern Province. Last year the Northern was comparatively free, there being only one case amongst Europeans.

Table III.

	1930.		1931.		1932.		1933.		1934.	
	Population: European and Asian.	Incidence of blackwater fever per 1,000.	Population: European and Asian.	Incidence of blackwater fever per 1,000.	Population: European and Asian.	Incidence of blackwater fever per 1,000.	Population: European and Asian.	Incidence of blackwater fever per 1,000.	Population: European and Asian.	Incidence of blackwater fever per 1,000.
Buganda Province ...	6,886	4·9	8,522	5·9	7,746	5·9	7,746	7·6	7,451	6·3
Eastern Province ...	7,080	8·8	5,301	13·7	5,698	11·2	5,698	12·3	6,175	12·1
Northern Province ...	1,215	22·1	1,500	14·0	1,623	8·6	1,623	9·2	1,555	7·0
Western Province ...	804	12·3	827	4·7	805	1·2	805	2·5	877	2·2

100. Up till 1934 there had been 32 cases amongst local Africans with three deaths, six cases with one death among Seychelles natives, and one West African case.

101. Of the nine cases in Africans in 1934, two each were reported from Arua, Fort Portal and Mulago, and one each from Jinja, Kampala and Kamuli. In two instances only, namely, a Mutoro in Fort Portal, and a Musoga in Jinja, was the disease contracted in the man's tribal area, and in the latter case the victim had spent many years in the Western Province. In all other cases the victim was in a different type of climate to his own, and exposed to infection with a different strain of malarial parasite.

102. The list of the cases by localities and tribes is as follows :—

Place.	Tribe.	Result.
Arua	Mutoro	Died.
Arua	Muganda	Recovered.
Fort Portal	Mutoro	Recovered.
Fort Portal	Acholi	Recovered.
Jinja	Musoga	Died. Had spent many years in Western Province.
Mulago	Munyankole	Recovered.
Mulago	Mutoro	Died.
Kamuli	Kikuyu	Recovered (2nd attack).
Kampala	Mutoro	Recovered.

103. It will be observed that four of the nine patients were Batoro. It was a second attack in the case of the Kikuyu, who had had one less than a year before at the same place.

(b) Infectious Diseases.

104. *Epidemic Cerebro-Spinal Meningitis.*—181 cases, of which 135 cases with 43 deaths, were treated as in-patients, were diagnosed during the year. Altogether 743 cases with 289 deaths were reported. While a few cases occurred elsewhere, the large majority came from Ankole and Kigezi, in both of which districts cases occurred throughout the year, although the epidemic appeared to be dying down towards the end of it.

105. *Dysentery.*—3,617 cases with seven deaths were treated. While more than half of these, mainly from sub-dispensaries, were returned as undefined, the number of cases of amoebic dysentery, reported for the most part from Lango and Gulu, was more than double that of last year. It is probable that this disease is much more widespread than has hitherto been realised.

106. *Influenza.*—13,666 cases, 4,000 more than in 1933, were reported. There was a severe epidemic in Teso during November and December, and mild epidemics in the West Nile in August and September; at Bombo in August and November; and in Bugwere in January, and the last quarter of the year. This disease was responsible for 28 deaths in hospital, while as a direct consequence of the epidemic in Teso the general death rate in some areas was said to be increased by 30 per cent.

107. *Syphilis and Yaws.*—While the number of cases of each of these diseases increased, the incidence compared with other ailments fell slightly. The following table shows the percentage of cases of syphilis and yaws taken together to the total number of cases treated :—

1929.	1930.	1931.	1932.	1933.	1934.
19·1	16·7	16·9	16·4	16·4	15·8

108. The number of cases of each disease during the same period was :—

	1929.	1930.	1931.	1932.	1933.	1934.
Syphilis	74,722	65,979	64,591	68,432	72,218	74,141
Yaws	37,378	38,066	47,598	43,773	49,546	57,056
Both diseases	112,100	104,045	112,189	112,205	121,764	131,197

109. It is a matter for regret that the number of injections received by individual sufferers is so small that, in the majority of cases, merely the outward manifestations are healed, while the disease itself remains untouched. From Busoga it was reported that 75 per cent. of the cases received only one injection, while in the report for 1932 it may be remembered that it was stated that the average number of

re-attendances was only three even in Mulago Hospital. In several districts localised campaigns for the treatment of all cases of yaws at or near their homes by itinerant dressers have been instituted.

110. *Gonorrhœa.*—There were fewer cases than in the previous two years.

1930.		1931.		1932.		1933.		1934.
8,619	...	8,931	...	10,591	...	10,702	...	9,690

Here again treatment is not persevered with to the standard of cure.

111. *Anthrax.*—65 persons were treated in the Masaka district where cases occurred in the Lyantonde area throughout the year. In December there was a further outbreak due to infected hides. In Ankole the epidemic mentioned in the Annual Report for 1933 continued until the middle of February. 247 cases with 36 deaths were reported. These epidemics were due to eating infected meat.

112. *Leprosy.*—During the year, a leper colony at Buluba in Busoga managed by the Franciscan Sisters and supervised by the Government Medical Officers at Jinja, was opened. Settlement was voluntary and there were admitted 65 lepers, of whom 50 remained under treatment throughout the year. Of the remainder many went away to visit friends for a longer or shorter period, but most of them returned.

113. These lepers were at the end of 1934 housed in a number of huts. On arrival the leper family is allotted its plot on which cultivation of food crops and cotton is begun at once. As soon as practicable, each leper family builds its own house or houses on the plot in permanent materials with or without help from local Native Government funds. It is hoped that the family will be self-supporting, and by the sale of cotton be able to pay off in instalments the money advanced for the house.

114. A permanent dispensary and a temporary house for the Nuns were built during 1934 from funds partly provided by the Busoga Native Government, but the staff quarters are now very dilapidated and are about to be replaced by a permanent building.

115. Considerable improvement among those who received regular treatment was noted. While alepol was the drug chiefly used, there can be little doubt that the provision of more hygienic conditions, both in housing and feeding, and the treatment of intercurrent infections, has played the more important part.

116. There is also a Colony managed by the same Mission at Nyenga in Mengo, some eight miles from Jinja. During 1934, it housed an average of 132 lepers. It is now intended to maintain this settlement as an asylum for crippled cases. Out-patients dropped to little more than half the number attending last year. Four patients were discharged cured, and considerable improvement in the general health and symptoms of the in-patients was noted. A dormitory for 48 men was completed, enabling some of the unsightly and insanitary mud and wattle huts to be removed.

117. At the Bunyonyi leper colony in Kigezi there were resident at the end of the year about 450 lepers. Since the establishment of the colony in 1930, 583 lepers have been placed on the register. Of these, some have died, others have been discharged, and others again have not taken kindly to this system of voluntary segregation and have returned to their homes. In May, an Untainted Children's Home was opened. There were, at the end of the year, fourteen healthy children of lepers in the charge of two healthy girls and under the supervision of the Sister-in-charge. It is hoped that as opposition to the removal of their healthy children is broken down, this number will gradually increase. A start was made to replace the old temporary grass huts by brick houses with windows and papyrus roofs. Thirty-five were completed during the year. The School under the management of Miss L. M. Forbes now numbers 120 and is serving an exceedingly useful purpose.

118. At Kumi leper hospital for children there are approximately 145 inmates under treatment, and at the Ongino colony for adults about 200. Both these centres, in Teso, are staffed by the Church Missionary Society.

119. There was a decrease in the number of lepers attending Government hospitals, and from nearly every district it was reported that the attendance of lepers was so irregular that improvement could not be expected. It would appear that the successful control of leprosy lies in the establishment of such colonies as those mentioned

above. The great difficulty which stands in the way of better treatment is the comparative indifference of the African to contact with those who are infected. It is not uncommon for a healthy girl to marry a leper even in an advanced stage of the disease.

120. *Typhoid Fever.*—Sixty-four cases with 17 deaths were treated by Government medical officers, while reports were received from private practitioners of seven cases among Asians in Kampala. These figures are made up of five Europeans (one of whom died), eleven Asians (all of whom recovered) and 55 natives with sixteen deaths. Three Europeans, nine Asians and 42 natives were treated at hospitals or by private practitioners in Kampala, and it is probable that many of these were infected locally. There were 44 cases of infection with *B. typhosus* with fourteen deaths, three with *B. paratyphosus A* and six with *B. paratyphosus B* with one death, and in the remainder the diagnosis was made on clinical grounds. Two cases occurred in Luzira gaol. As a routine measure, it is customary to require all persons in the gaol who are to be employed in the preparation of food to be examined and certified as non-typhoid carriers. Through an oversight, one who proved afterwards to be a carrier escaped examination. After his removal from the kitchen no further cases occurred.

121. The incidence of typhoid in Kampala for the last fifteen years has been :—

1920 ... 13	1925 ... 28	1930 ... 39
1921 ... 6	1926 .. 37	1931 ... 66
1922 ... 6	1927 ... 60	1932 ... 12
1923 ... 16	1928 ... 56	1933 ... 42
1924 ... 6	1929 ... 85	1934 ... 54

122. There is little question that the conservancy bucket system in Kampala lends itself admirably to the spread of typhoid infection, as the fæces remain exposed to the visits of house flies till the buckets are emptied at night. Fortunately, house flies are not as common as in some parts of Africa, and to this fact must be attributed the comparatively small incidence of this group of intestinal infections.

123. The case mortality for the Protectorate since 1923 has been :—

1923 ... 4·1	1927 ... 21·7	1931 ... 20·0
1924 ... 27·3	1928 ... 18·9	1932 ... 18·1
1925 ... 11·1	1929 ... 16·4	1933 ... 37·2
1926 ... 17·6	1930 ... 18·6	1934 ... 23·6

124. *Tuberculosis.*—While there has been an increase in the number of cases diagnosed, there is no reason to suppose that the disease is increasing in frequency; as the African hospital orderly-in-charge of out-patients becomes better trained, he is more capable of recognising the symptoms of this disease, and of bringing suspicious cases to the notice of the visiting medical officer for diagnosis. The incidence during the last five years has been :—

	1930.	1931.	1932.	1933.	1934
Total cases	324	363	687	807	1,007
Pulmonary cases	254	299	588	719	900
Deaths	44	56	66	66	89

125. The figures for 1934 include 149 cases of pulmonary tuberculosis reported from one of the Bugishu sub-dispensaries. The District Medical Officer believed the diagnosis to be erroneous.

126. The Medical Officer, Lango, stated that pulmonary tuberculosis is a severe disease among that tribe, and that it progresses rapidly to a fatal termination, while the Medical Officer, Kigezi, reported that he believed the disease to be commoner in that district than is generally supposed.

127. As foreshadowed in the Annual Report for 1933, an investigation into the relationship, if any, which exists between tuberculosis in Ankole cattle and the people of the district was commenced. Tuberculosis is extremely common in Ankole cattle, while it is comparatively rare in Zebu cattle. As the disease is also common among the Ankole people, it was thought that the pulmonary tuberculosis among human beings might be of the bovine variety. Up to the present, of some fifty cases of phthisis investigated by the Veterinary Department, assisted by this Department, two, one Mutoro and one Mwiru, both cattle owners, have been found to be infected by the bovine strain, while all the others, including eleven Bakima, the main cattle herding tribe of Uganda, were found not to be so infected. The investigation is proceeding.

(c) Helminthic Diseases.

128. *Ancylostomiasis.*—1,915 cases with 26 deaths were returned. Infection with hook-worm is very common throughout the Protectorate, but it is unusual for the African to seek treatment for this condition which produces in the majority of cases few positive symptoms. At most station hospitals, routine examination of the stools of all in-patients are carried out, and very many more cases than those recorded are treated. As a cause of inefficiency, it is probably second only to malaria.

129. *Cestoda.*—3,234 cases, compared with 2,957 in 1933, were recorded. Tapeworm is particularly common in Ankole and Toro.

130. *Ascaris.*—There were 2,039 cases, compared with 1,481 in 1933. As in the case of ancylostomiasis, many more cases than were recorded were treated.

131. *Dracunculus.*—2,028 cases, of which 1,885 were from the Northern Province, were returned. Of the remainder, the majority occurred in natives from the West Nile and the Acholi area who were residents in other parts of the Protectorate. Five cases in Busoga were, however, reported from Kaliro dispensary. It is possible that the water supplies nearby had been infected by ginnery or other labour, and this is a matter which requires investigation.

132. *Schistosomiasis.*—Altogether 155 cases were reported. 137 of *S. mansoni* and eighteen of *S. haematobium.* Most of the cases of the former came from the Northern Province, though, as in 1933, there were several cases in Entebbe.

(B) Vital Statistics.

133. The vital statistics for the Protectorate are set out in Tables A, B and C. The population has been calculated from the Census figures of 1931, with the addition of births and the subtraction of deaths in each subsquent year.

YEARLY INCREASE OR DECREASE OF PROVINCIAL POPULATION TOTALS PER 1,000 PEOPLE.

	1929.	1930.	1932.	1933.	1934
Buganda Province	..	+34	+ 4	+ 0·4	+1·7	+3·1
Eastern Province	...	+47	−14	+11·5	+ 12	+3·5
Western Province	...	+47	+54	+10·6	+ 11	+8·6
Northern Province	...	+65	+11	+15·4	+ 15	+8·2

The population of Karamoja in the Eastern Province has been omitted, as no returns are rendered from that district.

134. *Birth Rate and Death Rate.*—For the whole Protectorate, the number of births exceeded the number of deaths by 19,456 and the population increased by 5·4 per thousand. The corresponding figures for 1933 were 35,249 and 10·0. It is difficult to account for the difference in these figures. The total of births for 1934 was nearly 8,000 lower and of deaths nearly 8,000 higher than in the previous year. In the Eastern Province there were 6,644 fewer births and 3,295 more deaths, and, as in every district the figures fluctuated considerably, faulty registration in one year or the other is the probable explanation.

135. Three districts showed an excess of deaths over births, Mengo, Mubende and Bunyoro. The decrease in Mengo is, as suggested in last year's Report, probably due in part to the large number of immigrants, among whom males greatly exceed females, and who would therefore show a greater death than birth rate. Bunyoro as in previous years showed a small excess of deaths over births, and as Mubende district is inhabited mainly by Banyoro, the same state of affairs might be expected to obtain.

136. *Still-birth Rate.*—Fewer still-births were registered in 1934 than in the previous years. It is likely that they are not all recorded. The rates vary from 14·69 per thousand births in Bunyoro to 0·58 per thousand in the Entebbe district.

137. *Infant Mortality Rate.*—This was higher than in 1933, 188 per thousand live births compared with 160. Very high rates were recorded in Gulu 325, Chua 356, and the West Nile 329. It is probable that a number of deaths in children over one year are included in the returns. In Buganda the rate except for a small rise in 1933 has been gradually falling for some years, and is now at a very satisfactory figure.

	1930.	1931.	1932.	1933.	1934.
Infant mortality rate in Buganda	128·16	118·21	99·60	105·59	90·92

TABLE A.—RETURN SHOWING BIRTH, DEATH, STILL-BIRTH AND INFANTILE MORTALITY RATES FOR THE UGANDA PROTECTORATE FOR THE LAST SEVEN YEARS.

PROVINCE AND DISTRICT.	BIRTH RATE PER 1,000 POPULATION.							DEATH RATE PER 1,000 POPULATION.							STILL-BIRTH RATE PER 100 BIRTHS AND STILL-BIRTHS.							INFANTILE MORTALITY RATE PER 1,000 BIRTHS.							MATERNAL MORTALITY RATE PER 1,000 BIRTHS AND STILL-BIRTHS.				
	1928	1929	1930	1931	1932	1933	1934	1928	1929	1930	1931	1932	1933	1934	1928	1929	1930	1931	1932	1933	1934	1928	1929	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
BUGANDA:—																																	
Mengo	15·98	15·88	14·71	15·85	16·61	17·05	17·49	...	...	18·66	22·24	22·15	22·44	19·34	...	...	3·75	5·05	5·34	4·52	3·10	129·92	100·98	125·16	148·71	107·54	124·80	93·29	15·11	14·27	13·32	15·71	11·79
Entebbe	24·63	24·79	24·92	17·52	17·84	18·12	18·93	...	...	24·60	15·21	14·59	15·07	13·29	...	...	3·58	2·95	1·77	1·52	0·58	162·63	112·47	129·33	100·43	85·36	87·92	72·13	6·15	7·17	6·22	6·41	4·76
Masaka	23·15	25·22	26·35	27·97	25·20	29·79	29·92	...	...	20·68	18·44	17·42	16·64	16·78	...	...	2·86	3·57	5·39	3·07	4·04	146·21	109·03	106·37	97·41	89·54	96·10	83·03	9·30	7·66	5·15	6·90	6·53
Mubende	18·78	18·26	19·22	21·81	20·18	19·36	19·16	...	...	22·58	19·28	17·99	16·49	19·33	...	...	3·67	5·28	8·93	6·44	7·19	208·22	144·81	168·39	114·48	113·97	103·87	122·66	7·41	4·19	8·98	6·50	5·58
TOTAL ...	19·50	19·78	19·70	19·70	19·25	20·23	20·67	18·98	18·47	20·77	19·46	18·84	18·62	17·51	4·82	6·65	3·45	4·29	5·37	3·87	3·61	155·32	112·86	128·16	118·21	99·60	105·59	90·92	10·23	9·07	9·23	9·75	7·81
EASTERN:—																																	
Busoga	35·80	35·48	37·39	31·84	31·38	31·66	27·49	20·19	18·91	26·38	23·69	22·68	20·82	23·53	5·27	4·51	4·73	6·09	7·97	7·59	7·78	288·82	292·72	267·00	234·93	206·04	202·66	229·65	13·28	13·32	13·06	13·84	13·50
Budama	20·87	25·63	37·55	34·24	33·86	36·25	28·70	...	...	22·75	21·39	16·95	21·39	22·58	...	...	1·99	1·42	1·83	1·18	0·69	421·96	373·16	264·02	211·05	145·24	123·03	142·43	12·72	10·31	11·36	10·36	11·94
Bugishu	36·86	35·12	31·64	43·31	37·82	45·45	30·55	...	...	21·88	23·75	20·10	24·87	23·25	...	...	7·37	6·46	5·76	5·32	5·20	376·65	210·05	264·59	231·84	172·86	196·68	272·87	17·37	13·94	11·82	11·26	12·48
Bugwere	20·28	22·48	26·85	26·89	29·43	31·96	29·62	...	...	32·59	25·63	18·82	20·34	28·04	...	...	4·78	6·95	5·28	5·66	5·70	305·75	364·29	196·63	181·56	134·84	142·58	155·52	20·32	16·16	11·79	11·51	12·75
Teso	15·83	19·11	21·87	23·34	23·90	21·93	18·93	...	...	19·15	23·73	15·53	15·51	18·75	...	...	0·82	0·87	0·30	0·17	0·32	138·98	121·13	85·03	88·30	87·81	93·77	102·83	15·24	13·02	12·39	10·46	12·47
TOTAL ...	25·11	26·44	30·28	31·17	30·66	32·20	26·47	...	...	24·26	23·62	19·27	20·22	22·94	...	...	4·24	4·77	4·96	4·76	4·81	308·30	264·72	223·55	198·13	158·96	163·33	191·54	15·33	13·38	12·28	11·91	12·81
WESTERN:—																																	
Toro	48·77	42·92	34·35	24·26	21·12	20·92	22·58	25·06	20·30	24·26	21·70	17·30	16·00	16·76	23·32	24·03	3·58	5·71	5·58	3·81	3·83	325·02	322·26	360·76	377·57	278·54	207·66	190·40	16·58	19·25	19·08	14·58	23·18
Ankole	34·64	34·22	38·50	37·51	24·84	21·39	23·17	16·50	17·17	26·91	26·97	19·31	17·25	20·14	13·11	17·82	4·36	4·78	3·89	4·60	4·22	304·21	338·30	286·28	267·48	207·90	162·58	177·54	13·78	12·08	8·40	7·74	8·47
Kigezi	43·85	40·37	29·69	37·86	37·37	36·07	33·11	...	...	13·42	15·74	15·20	12·05	15·81	...	...	1·56	1·55	0·86	0·97	0·71	182·32	204·00	124·69	139·36	144·44	100·17	152·47	15·08	8·74	4·81	5·22	9·82
TOTAL ...	40·97	38·28	34·55	33·95	27·92	26·13	26·33	...	...	21·69	21·87	17·41	15·18	17·77	...	...	0·37	3·83	2·95	2·79	2·68	271·57	290·57	256·57	243·08	194·81	143·88	170·01	14·83	12·35	9·15	8·12	12·51
NORTHERN:—																																	
Lango	29·32	33·13	33·27	34·63	38·22	37·27	33·63	...	...	21·09	26·76	20·66	20·99	28·43	...	...	2·07	1·31	0·57	1·03	1·53	337·14	210·83	198·09	189·12	132·05	122·66	181·73	10·56	10·91	8·13	8·76	8·95
Bunyoro	21·63	23·77	23·26	18·03	19·17	20·38	16·90	26·98	28·76	32·56	21·59	21·33	20·59	18·47	29·53	20·44	17·63	21·13	18·98	16·01	14·69	416·53	382·36	323·51	244·17	172·08	167·46	136·83	7·81	4·97	3·33	6·87	5·76
Gulu	34·66	39·50	45·28	40·83	44·90	51·31	50·90	...	...	27·41	27·57	24·33	26·79	40·56	...	...	2·71	2·97	2·33	4·35	5·19	265·60	226·64	311·18	365·69	252·14	238·11	325·89	11·96	17·22	6·17	5·71	4·19
Chua	42·80	39·13	47·64	53·96	52·57	46·75	46·26	...	...	24·54	29·18	30·90	24·35	27·60	...	...	5·73	6·12	5·66	5·59	6·59	219·17	346·02	334·04	327·12	341·89	305·10	356·53	23·40	16·96	22·44	17·60	21·35
West Nile	35·88	28·20	28·28	27·80	28·41	25·54	22·66	...	...	10·79	11·61	11·42	10·00	11·88	...	...	4·30	3·60	3·56	2·26	2·64	106·04	104·79	229·19	234·19	259·10	243·55	329·84	40·70	47·92	23·95	35·27	50·40
TOTAL ...	32·64	32·12	33·97	32·73	34·58	33·83	31·25	...	...	20·49	21·37	19·32	18·49	23·10	...	...	4·83	5·04	4·26	4·19	4·57	241·62	220·28	259·22	258·54	223·33	206·14	271·89	20·74	22·39	13·87	15·66	19·26
UGANDA PROTECTORATE...	28·14	28·13	29·19	29·18	28·11	28·39	26·05	...	...	22·06	21·75	18·30	18·43	20·58	...	...	4·06	4·53	4·46	4.09	4·08	254·35	232·75	223·65	209·71	173·19	160·64	188·53	15·74	14·60	11·56	11·81	13·48

TABLE B.—TABLE SHOWING INCREASE OR DECREASE OF REPORTED BIRTHS OVER REPORTED DEATHS FOR FIVE DISTRICTS FOR THE LAST 17 YEARS.

YEAR.	BUGANDA.	BUSOGA.	BUNYORO.	ANKOLE.	TORO.	TOTAL INCREMENT.
1918	— 3,873	+ 1,553	— 2,851	+ 776	+ 1,657	— 2,738
1919	— 5,709	— 3,135	— 2,061	— 1,870	— 176	— 12,951
1920	— 2,204	+ 2,025	— 1,012	+ 496	+ 907	+ 212
1921	— 711	— 1,483	— 997	+ 889	+ 1,896	— 406
1922	— 1,458	+ 2,953	— 891	+ 1,503	+ 1,872	+ 3,979
1923	— 624	+ 2,194	— 856	+ 1,611	+ 1,670	+ 3,995
1924	+ 37	+ 3,295	— 970	+ 2,329	+ 2,924	+ 7,615
1925	+ 1,059	+ 5,726	— 818	+ 3,727	+ 3,253	+ 12,947
1926	+ 1,179	+ 5,314	— 500	+ 2,891	+ 3,602	+ 12,486
1927	+ 3,475	+ 5,703	— 443	+ 4,446	+ 3,955	+ 17,136
1928	+ 1,091	+ 4,656	— 492	+ 4,848	+ 3,686	+ 13,789
1929	+ 1,357	5,572	— 329	+ 4,238	+ 3,505	+ 14,343
1930	— 940	+ 3,799	— 801	+ 3,139	+ 1,571	+ 6,768
1931	+ 213	+ 3,084	— 406	+ 2,945	+ 497	+ 6,333
1932	+ 357	+ 3,322	— 246	+ 1,556	+ 743	+ 5,732
1933	+ 1,474	+ 4,184	— 24	+ 1,167	+ 962	+ 7,763
1934	+ 2,769	+ 1,536	— 179	+ 858	+ 1,143	+ 6,127

TABLE C.—VITAL STATISTICS RETURN OF THE UGANDA PROTECTORATE FOR THE YEAR 1934 (NATIVE POPULATION ONLY).

PROVINCE AND DISTRICT.	TOTALS FOR THE WHOLE YEAR.										ESTIMATED POPULATION.	RATES FOR THE YEAR.				
	Live Births.			Still Births.	Deaths.							Birth Rate per 1,000 Population.	% Still-Births to Births plus Still Births.	Infantile Mortality Rate per 1,000 Live Births.	Maternal Mortality per 1,000 Births and Still Births.	Death Rate per 1,000 Population.
					Of Children under 1 Year.			Of Women in Child Birth.	All Other Deaths.	Total Deaths.						
	M.	F.	Total.		M.	F.	Total.									
BUGANDA PROVINCE:—																
Mengo	3,176	2,987	6,163	197	297	278	575	75	6,160	6,810	352,269	17·49	3·10	93·29	11·79	19·34
Entebbe	1,768	1,781	3,549	21	130	126	256	17	2,219	2,492	187,448	18·93	0·58	72·13	4·76	13·29
Masaka	2,768	2,664	5,432	229	242	209	451	37	2,559	3,047	181,523	29·92	4·04	83·03	6·53	16·78
Mubende	1,519	1,473	2,992	232	199	168	367	18	2,633	3,018	156,106	19·16	7·19	122·66	5·58	19·33
TOTAL ...	9,231	8,905	18,136	679	868	781	1,649	147	13,571	15,367	877,346	20·67	3·61	90·92	7·81	17·51
EASTERN PROVINCE:—																
Busoga	5,427	5,224	10,651	899	1,275	1,171	2,446	156	6,513	9,115	387,436	27·49	7·78	229·65	13·50	23·53
Budama	2,209	2,200	4,409	31	311	317	628	53	2,788	3,469	153,670	28·70	0·69	142·43	11·94	22·58
Bugishu	2,942	2,753	5.695	313	780	774	1,554	75	2,706	4,335	186,417	30·55	5·20	272·87	12·48	23·25
Bugwere	2,710	2,614	5,324	322	454	374	828	72	4,140	5,040	179,769	29·62	5·70	155·52	12·75	28·04
Teso	2,717	2,476	5,193	17	270	264	534	65	4,544	5,143	274,305	18·93	0·32	102·83	12·47	18·75
*Karamoja	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL ...	16,005	15,267	31,272	1,582	3,090	2,900	5,990	421	20,691	27,102	1,181,597	26·47	4·81	191·54	12·81	22·94
WESTERN PROVINCE:—																
Toro	2,422	2,016	4,438	177	495	350	845	107	2.343	3,295	196,562	22·58	3·83	190·40	23·18	16·76
Ankole	3,380	3,176	6,556	289	617	547	1,164	58	4,476	5,698	282,935	23·17	4·22	177·54	8·47	20·14
Kigezi	4,015	3,967	7,982	57	641	576	1,217	79	2,515	3,811	241,067	33·11	0·71	152·47	9·82	15·81
TOTAL ...	9,817	9,159	18,976	523	1,753	1,473	3,226	244	9,334	12,804	720,564	26·33	2·68	170·01	12·51	17·77
NORTHERN PROVINCE:—																
Lango	3,856	3,721	7,577	118	733	644	1,377	69	4,960	6.406	225,321	33·63	1·53	181·73	8·95	28·43
Bunyoro	1,037	885	1,922	331	138	125	263	13	1,825	2,101	113,771	16·90	14·69	136·83	5·76	18·47
Gulu	2,621	2,577	5,198	285	893	801	1,694	23	2,425	4,142	102,116	50·90	5·19	325·89	4·19	40·56
Chua	2,004	1,889	3,893	275	696	692	1,388	89	846	2,323	84,144	46·26	6·59	356·53	21·35	27·60
West Nile	2,952	2,784	5,736	156	975	917	1,892	297	820	3,009	253,154	22·66	2·64	329·84	50·40	11·88
TOTAL ...	12,470	11,856	24,326	1,165	3,435	3,179	6,614	491	10,876	17,981	778,506	31·25	4·57	271·89	19·26	23·10
UGANDA PROTECTORATE ...	47,523	45,187	92,710	3,949	9,146	8,333	17,479	1,303	54,472	73,254	3,558,013	26·05	4·08	188·53	13·48	20·58

* The Population of Karamoja has been excluded from the total population and from all calculations of rates because no vital statistics are submitted from that district.

138. *Maternal Mortality Rate.*—Owing partly to a large increase in the West Nile, from 35 to 50 per thousand births, there is again an increase in the rate for the Protectorate from 11·81 to 13·48. There can be little doubt that in many of the more backward districts, the ecbolic drug so frequently administered to women in child-birth is responsible for a large number of these deaths, and also for a large number of still-births. This custom is said to be on the decline in Buganda, and this is borne out by the fact that the rate in that kingdom is very much smaller than in the remaining districts.

European Officials.

139. Only those officials, with the exception of railway drivers and firemen, who appear on the Protectorate Staff List are included in Table D. Officials of the Kenya and Uganda Railways and Harbours, usually engine drivers and guards, who do not appear on the Staff List are omitted for the reason that they are not stationed in Uganda, and as they continually enter and leave the Protectorate in the course of their duties, it would not be possible to give either the total or the average number resident. The wives and families of officials are also not included.

Table D.

140. Table showing the sick, invaliding and death rates of European officials during the last three years:—

	1932.	1933.	1934.
Total number of officials resident	542	508	523
Average number resident	442	397	434
Total number on sick list	751	819	774
Total number of days on sick list	2,536	2,177	2,247
Average daily number on sick list	6·94	5·96	6·16
Percentage of sick to average number resident	1·57	1·50	1·42
Average number of days on sick list, each patient	3·37	2·65	2·90
Average sick time, each resident	5·74	5·48	5·18
Total number invalided	5	1	3
Percentage of invaliding to total residents	0·92	0·19	0·57
Total deaths	1	Nil	1
Percentage of deaths to average number resident	0·22	—	0·23
Percentage of deaths to total residents	0·18	—	0·19
Number of cases of sickness contracted away from station		—No record—	
Number granted local sick leave	23	23	22
Average number of days sick leave for each patient granted local sick leave	14·73	16·95	16·00

141. The most common diseases were:—

Malaria	256	Tonsilitis	41
Influenza	64	Diseases of digestive system	49
Injuries	52	Diseases of respiratory system	35

142. *Medical Boards* were held to enquire into the health of twelve European officials during the year and the following recommendations were made:—

(*a*)	To be invalided out of the service—	
	Neurasthenia	1
(*b*)	To proceed on home leave for treatment—	
	*Myocarditis	1
	Stone in the kidney	1
	Fibroid uterus	1
	Chronic dyspepsia	1
	Hyperthyroidism	1
(*c*)	To proceed on home leave—	
	Chronic malaria and amoebic dysentery	1
	Tachycardia	1
(*d*)	To proceed on local sick leave in Kenya—	
	Blackwater fever	1
(*e*)	To be posted to a healthy station—	
	Debility	1
(*f*)	Found fit to complete his tour of service—	
	Malaria	1
(*g*)	Found fit to resume duty—	
	*Bronchial asthma	1

* Subsequently invalided out of the service on the recommendation of Colonial Office Medical Adviser.

143. *Deaths.*—One from myocarditis following blackwater fever and influenza.

European Non-Officials.

144. 2,361 cases of illness among the European non-official community were treated by Government medical officers. This compared with 1,611 in 1933.

145. *Deaths.*—Sixteen deaths were recorded, the causes of which were :—

Blackwater fever	5	Unknown	1
Accident	1	Gastro enteritis	1
Cancer	2	Peritonitis	1
Erysipelas	1	Pneumonia	2
Typhus	1	Senility	1

146. Principal causes of sickness :—

Malaria	370	Tonsilitis	39
Influenza	66	Diseases of digestive system	54
Injuries	60	Diseases of respiratory system	89

Asiatic Officials.

147. In Table E below, the wives and families of officials, officials of the Kenya and Uganda Railways and Harbours, and artizans employed by the Public Works Department on temporary agreement are omitted.

TABLE E.

148. Table showing the sick, invaliding and death rates of Asiatic Officials during the last three years :—

	1932.	1933.	1934.
Total number of officials resident	352	346	360
Average number resident	293	286	321
Total number on sick list	1,184	1,202	609
Total number of days on sick list	3,197	2,385	1,529
Average daily number on sick list	8·75	6·53	4·19
Percentage of sick to average number resident	2·98	2·28	1·31
Average number of days on sick list for each patient	2·70	1·98	2·51
Average sick time each resident	10·91	8·33	4·76
Total number invalided	4	6	4
Percentage of invalidings to total residents	1·13	1·73	1·11
Total deaths	2	1	2
Percentage of deaths to total residents	0·56	0·28	0·56
Percentage of deaths to average number resident	0·68	0·35	0·62
Number of cases of sickness contracted away from station		— No record —	
Number granted local sick leave	11	7	7
Average number of days on sick leave for each patient granted sick leave	14·90	15	17·71

149. The most common diseases were :—

Malaria	210	Diseases of the skin	15
Diseases of digestive system	80	Rheumatism and Myalgia	20
Diseases of respiratory system	65	Local Injuries	36
Influenza	65		

150. *Medical Boards* were held on seven Asian officials with the following results :—

(*a*) To be invalided out of the service—
- Organic cerebral disease ... 1
- Bronchitis and bronchial asthma ... 1
- *Vesicular emphysema and asthma ... 1
- Intra-capsular fracture of the neck of the left femur ... 1

(*b*) To proceed on leave and to be passed as fit before return—
- Irritable heart ... 1

(*c*) Fit to serve at either Hoima or Entebbe—
- Hyperpiesia ... 1

(*d*) That immediate operation was necessary—
- Perforated cornea and traumatic cataract ... 1

*Invalided out of the service on the recommendation of a Medical Board held in Bombay.

151. *Deaths.*—Two deaths are recorded, the cause of death being :—

Gangrenous stomatitis	1	Pneumonia	1

Asian Non-Officials.

152. 7,174 cases among the Asian non-official community were treated. The number in 1933 was 6,208.

153. Principal causes of sickness were :—

Malaria	2,192	Injuries	139
Influenza	213	Diseases of digestive system ...	193
Ulcers, abscesses, etc.	107	Diseases of respiratory system ...	498

154. 134 deaths among Asian non-officials were reported. The chief causes of death were :—

Blackwater fever	28	Heart failure	10
Pneumonia	25	Child birth	9
Malaria	17	Tuberculosis	9

African Officials (African Civil Service).

TABLE F.

155. Table showing the sick, invaliding and death rates of African Civil Servants, excluding wives and families :—

Total number of officials resident	121
Average number resident	121
Total number on sick list	23
Total number of days on sick list	100
Average daily number on sick list	0·27
Percentage of sick to average number resident	0·22
Average number of days on sick list for each patient	4·35
Average sick time each resident	0·83
Total number invalided	1
Percentage of invalidings to total residents	0·83
Total deaths	2
Percentage of deaths to total residents	1·65
Percentage of deaths to average number resident	1·65
Number of cases of sickness contracted away from stations	No record.
Number granted local sick leave	—
Average number of days on sick leave for each patient granted sick leave	—

The most common diseases were :—

Malaria	11	Local injuries	2
Dysentery	2	Plague	1

156. *A Medical Board* was held on one official with the following result :—

To be invalided out of the service ... 1

157. *Deaths.*—Two deaths were recorded, the causes of death being :—

Plague	1	Cardiac failure	1

SECTION III.—HYGIENE AND SANITATION.

(A) General Review of Work Done and Progress Made.

(I) PREVENTIVE MEASURES.

(a) Mosquito and Insect-borne Diseases.

158. *Malaria.*—The Entomological Section of the Agricultural Department undertook mosquito surveys of Entebbe, Soroti and Serere, while a detailed map of Kampala showing all potential breeding places was prepared. Mosquito larvæ from Entebbe, Mbale and Gulu were identified. Investigational work in connection with tanks and guttering was also carried out. The detailed reports on these surveys appear in Appendix II.

159. Many of the towns of Uganda are surrounded by swamps, the drainage of which by subsoil and other drains is impracticable on the score of expense. It was found that tree-planting was successful in drying out these areas and this method has been extended. It has been observed that, after planting, the mosquito population changes, anopheles disappear and less dangerous species take their place.

160. During 1934, 198 acres of new planting were established. A considerable additional acreage of planting was not successful owing to drought and the poor quality of the soil in some areas. 101 acres of *Eucalyptus rostrata* and *E. robusta* at Tororo, and 76 acres at Lira were firmly established, while three acres of *Cassia siamea* were planted at Lira and eight acres at Soroti. If eaten by termites, individual trees of Eucalyptus are replaced by Cassia which is not attacked by these insects. An experiment of planting ten acres of *Casuarina cunninghamiana* in sandy soil was made and looks promising. The dry season helped the early plantings in real swamps, and these are now quite dry except for the central drain. The introduction of mvule (*Chlorophora excelsa*) planted in the shade of the Eucalyptus should ensure permanency, and will be of economic value.

161. Reclamation of the lake front at Jinja on the lines instituted in previous years was continued with excellent results. A total of approximately half-a-mile of embankment with the concomitant removal of sudd was completed. Work is being continued, and the scheme of clearing originally contemplated should be completed by the end of this year.

162. *Yellow Fever.*—During 1934 a case of this disease occurred in the Sudan within a comparatively short distance of the Uganda border, and it was therefore necessary to take precautions to prevent its spread to this country. Instructions were issued that all aeroplanes arriving from the Sudan should be scrutinized for mosquitoes, particularly *Aedes aegypti*, the common vector, and that, as this mosquito is to be found in every station in Uganda, stringent measures should be taken to free all townships of this species. *A. aegypti* were found to be breeding in tanks and cisterns attached to houses in Kampala, but were absent from them in Jinja. Steps were taken to render tanks mosquito-proof.

163. Tests were performed by the Rockefeller Foundation Laboratory in New York on blood sera collected in Uganda, and a percentage of the sera collected in the West Nile, Toro and Kigezi districts showed protective properties. It is therefore highly probable that yellow fever has been present in the recent past in these parts of Uganda.

164. *Trypanosomiasis.*—Clearings were maintained by the Provincial Administration at all scheduled river crossings and landing places in sleeping sickness areas. These clearings were inspected by administrative and medical officers periodically while the inhabitants of the infected areas were examined once or twice in the year.

165. In the West Nile sleeping sickness area, Mr. C. W. Chorley recommended that the present triangular clearings, which are dangerous, should be extended to clearings 400 yards long by 100 yards deep on each side of the river; that bridges should be constructed at the centre of clearings at the main crossings; that no crops should be grown within 200 yards of rivers or clearings; and that no cattle or goats should be permitted to graze at clearings.

166. In the Lake Edward—George area Mr. Chorley found that the various gorges which were fly-infested made ideal places in which to trap but that, before this could produce good results, the native staff engaged on sleeping sickness work, required further training. One boy is now being trained in Mengo district.

167. *Victoria Nyanza Sleeping Sickness Area.*—It was arranged with the Government of Tanganyika Territory that all intending immigrants from that country into Uganda should be medically examined, that passes should be issued to those free from infection, and that persons without passes should be prohibited entry. No case of *T. rhodesiense* was detected during the year.

168. *Typhus.*—Fewer cases were reported from Kigezi in 1934 and, particularly in the latter half of the year, the position showed a great improvement. The District Medical Officer reported:—

> "Mr. W. M. Carnie, Sanitary Inspector, who was posted to Kigezi in March, 1934, devised a simple and efficient method of delousing skins, clothes, etc., by heat. The use of these delousing plants has been made compulsory throughout the district, and, since their introduction, the incidence of typhus has rapidly fallen off.
>
> "In the fifteen cases reported between May and December it was found on investigation that disinfection had not been carried out.
>
> "There can be no question that, if Mr. Garnie's delousers are used regularly, typhus will be completely eradicated."

169. A description of the apparatus used will be found as Appendix III.

(b) Epidemic Diseases.

170. *Plague.*—Investigations into the habits of the rat population of the Protectorate were made by the Entomological Section of the Agricultural Department. A rat survey of Uganda was, with the assistance of Medical Officers, also undertaken, the identification of field rats and their fleas being carried out in Kampala (*See* Appendix II).

171. The Entomologist made the following observation on rats in Busoga:—

> "An enormous proportion of the rats gassed in native huts in Busoga (*Rattus rattus*) proved to have mutilated feet. In extreme cases, which were not uncommon, three or even four feet were greatly swollen and with the toes missing. The cause of this condition was found to be attack by the larvæ of *C. anthropophaga*, the skin maggot of man, which is well known to produce boils in man, and particularly in children.
>
> "The fact that these maggots attack rats was not new to me, the point of interest being that there can be no question that in the area investigated, rats are the normal host of the species. This is a fresh implication of rats as disease carriers. I find that the same observation has been made previously in West Africa."

172. Efforts were made during the year towards the improvement of rural sanitation which is considered to be the most important factor in the eventual eradication of plague and addresses were frequently given on this subject, while posters dealing with rats and fleas were put up in dispensaries and in saza and gombolola headquarters. The following circular was issued in Luganda by the Medical Officer of Health, Busoga, and should prove of value:—

> "Plague is carried by rats.
>
> You can prevent plague coming to your house if you carry out the following precautionary measures:—
>
> 1. Build good houses with smooth-faced walls.
> 2. Clean the compound for 30 feet round the house.
> 3. Sweep floors and compound daily. Rats dislike clean houses.
> 4. Burn all rubbish.
> 5. Kill as many rats as possible. If they live in the roof take off the thatch and destroy their nests. Cats are very useful for keeping rats away.
> 7. Store food in tins or boxes where rats cannot reach it. Rats enter houses in search of food and shelter.
> 8. Report deaths of rats in your house without delay. Dead rats are usually a sign of plague.
> 9. Report at once any illness like plague, and all sudden deaths."

173. Smallpox.—No cases occurred in the Protectorate. The following table shows the number of vaccinations performed during 1934:—

Province and District.	Total.	Successful.	Modified.	Failed.	Unknown.
BUGANDA PROVINCE.—					
Entebbe District	818	186	75	19	538
Mengo ,,	14,252	9,675	2,595	1,056	926
Masaka ,,	5,506	2,974	1,173	—	1,359
Mubende ,,	4,052	2,189	564	727	572
TOTAL	24,628	15,024	4,407	1,802	3,395
EASTERN PROVINCE.—					
Busoga District	11,160	5,113	1,089	1,229	3,729
Budama ,,	6,396	3,002	2,434	924	36
Bugwere and Bugishu ,,	11,780	6,130	2,982	2,195	473
Teso ,,	5,191	3,355	1,082	394	360
TOTAL	34,527	17,600	7,587	4,742	4,598
NORTHERN PROVINCE.—					
Bunyoro District	1,390	729	269	198	194
Gulu ,,	2,270	778	471	361	660
Chua ,,	3,478	1,652	604	937	285
Lango ,,	4,239	1,312	793	546	1,588
TOTAL	11,377	4,471	2,137	2,042	2,727
WESTERN PROVINCE.—					
Toro District	11,192	9,350	242	1,019	581
Ankole ,,	1,740	175	—	—	1,565
TOTAL	12,932	9,525	242	1,019	2,146
GRAND TOTAL	83,464	46,620	14,373	9,605	12,866

(c) Helminthic Diseases.

174. During the year experiments on the control of Dracontiasis and Schistosomiasis by the use of the fruit of *Balanites aegyptica* (Heglig berries) were undertaken. The following is a description of the tree:—

> "Small tree, 20 to 40 feet high, spreading crown. Very common in Nile flats. Bark dark grey, very ridged and corky. The fruit called heglig berries is somewhat like a large date, yellow when ripe, edible but rather insipid. Flowers light green and small. Spines up to three inches long, sometimes forked."

175. It was found that if an emulsion of these berries is introduced into infested water, all small crustaceans and bilharzial molluscs are killed in twelve hours, and cercariae and meracidia in fifteen minutes. Fish and tadpoles are also killed in twenty-four hours, and serve as useful indicators, as if they are alive at the end of that time, it shows that insufficient emulsion has been used.

176. The technique recommended is as follows:—

(1) Fill a petrol tin with water.

(2) Add thirty-five heglig berries and allow to stand overnight in order to soften the berries.

(3) Crush all berries thoroughly between the fingers.

(4) Allow this emulsion to stand for twenty-four hours before use. By this time a thick scum will form on the surface of the water.

(5) Throw the whole contents of the tin into the water to be treated. One petrol tin of emulsion is sufficient to treat 250 gallons of water.

(6) The solution should be used fresh as if kept longer than seventy-two hours the lethal agent hydrolyses.

177. Dr. A. G. Mackay, District Medical Officer, Gulu, carried out experiments with this berry, and reported that the tree was to be found in the Atiak county of Gulu district and in Chua, and that the emulsion possessed the lethal properties claimed for it. He found that mosquito larvæ and pupæ were also killed and suggested the possibility that this emulsion might be of value in anti-malarial work. While the emulsion imparted a slightly bitter taste to the water, it was not unpleasant.

178. He also noted that the juice of the shoots of young bambo extracted with an equal quantity of water killed guinea worm embryos, cyclops and mosquito larvæ. Hydrocyanic acid was liberated but, though this completely volatilised in a short time, the water still retained its lethal properties owing to the formation of some other substance the nature of which was unknown.

179. As it is probable that these berries will be of considerable value in the prevention of guinea worm, bilharzia and possibly malaria, it was suggested that plantations of the tree might be made at saza and gombolola headquarters.

II. GENERAL MEASURES OF SANITATION.

180. Conservancy methods remained the same as in previous years. In most stations, the removal of storm water by cement drains has been extended year by year, and in this respect gradual improvement is being effected. A sewage disposal scheme for Kampala was under discussion during the greater part of the year. The satisfactory solution of the problem of conservancy in rural areas, ginneries, etc., still evades the department. Various methods of sewage disposal are under trial in different areas and it is hoped that one of these may prove suitable for adoption in all districts.

181. As has already been mentioned, water supplies are mostly unsatisfactory in quality and deficient in quantity. The water-carriage sewerage system is therefore out of the question in most towns pending the installation of piped water supplies.

III. SCHOOL HYGIENE.

182. In every district, schools were visited periodically by Medical Officers and Nursing Sisters, who gave advice on the sanitary conditions. Many Medical Officers reported that in the majority of schools these left a great deal to be desired. It is hoped that, in the coming year, the hygiene taught in the schools will be put into practice.

183. At Kampala and Jinja, the pupils of the Indian Government School were submitted to a routine medical examination. From Kampala, it was reported that the health of the children was, on the whole, good.

184. Eighty-six Indian boys were examined at Jinja, and the following conditions were reported:—

Ears.	Old perforation	3	*Spleen.*	Gross enlargement ...	15
Eyes.	Conjunctivitis	3	*Skin.*	Scabies	3
Teeth.	Caries	19	*Blood.*	Malarial parasites ...	20
				Anæmia	22

185. The examination of boys at Busoga College, details of which were published in last year's Annual Report, was continued, and treatment given when necessary. The Headmaster reported that:—

> "There has been a very marked improvement in the physique of the boys since systematic inspection and treatment was begun; in particular, certain boys who seemed both dull and lazy have become much keener and more alert."

186. Forty-three girls at the Iganga Girls' School were examined with the following results:—

Eyes.	Conjunctivitis	3	*Blood.*	Malarial parasites ...	12
	Trachoma	7		Anæmia	22
Teeth.	Caries	2	Syphilis or Yaws		24
Spleen.	Gross enlargement ...	6			

187. At Gulu 412 school boys were examined with the following results:—

Eyes.	Defective vision	11	*Blood.*	Malarial parasites ...	33
Teeth.	Caries	74		Anæmia	175
Skin.	Scabies	103	Congenital Syphilis		15
	Impetigo	16	Yaws		24
Spleen.	Gross enlargement ...	78	Leprosy		8
			Sleeping Sickness		1

188. These results reveal a truly appalling picture of ill-health, much of it preventable, and provide a powerful argument in favour of intensive health propaganda amongst schoolchildren, associated with adequate medical supervision.

189. At Moyo, 365 boys and 145 girls were inspected. The following is a brief summary of the results :—

	Boys.	Girls.		Boys.	Girls.
Skin diseases	84	33	Enlarged spleen ...	69	27
Eye diseases	10	6	Yaws	38	23
Dental diseases ...	16	7	Stated to be fit	84	59

190. A new form to be used for medical inspection of school children was issued towards the end of the year, and it is hoped that work among school children will be considerably extended in 1935.

(IV) LABOUR CONDITIONS.

191. The continued efforts of the Administration and the Agricultural Department to increase the wealth of the country by encouraging the African to grow crops for export have had the effect of decreasing the number of labourers who find it necessary to leave their homes in search of work to obtain funds for their personal needs and for the payment of taxes. The natural result of this decrease combined with the restrictions on the entry of immigrants from Tanganyika Territory owing to the occurrence of trypanosomiasis there, is a growing scarcity of labour available for industrial purposes, and a consequent tendency for labourers only to offer their services to employers who are known to look after the welfare of their employees. Attention was directed during the year to the conditions under which such labour works, is housed and is fed.

192. The Acting Inspector of Labour carried out a thorough examination of labour camps and submitted a report which described graphically the existing conditions and which made it clear that action by Government was called for. In November a schedule of instructions, together with plans of buildings approved by this department, was issued by the Administration to all ginnery owners requiring that housing provided for labour should conform to a certain minimum standard. By the close of the year there was evidence that the ginners were making an effort to comply with the requirements laid down. In 1935 it is intended to apply similar conditions to all classes of labour. The question of diet to be provided for ginnery and other labour remains under consideration.

193. The educated or semi-educated African of to-day demands better conditions than those which satisfied his fathers, and it is for Government not only to keep pace with but outstrip the cultural idea of its employees. During the year the existing type plans of buildings for housing Government servants were reconsidered and new ones were prepared. Accommodation built during the year conformed to these plans and it is intended that as funds become available the unsatisfactory housing erected in the past will be replaced.

194. While there was little improvement in the camps occupied by the road maintenance gangs, the Director of Public Works is endeavouring to bring them up to the approved standard in the coming year.

(V) HOUSING AND TOWN PLANNING.

195. In many stations, the police and prison warders are still housed in temporary huts, and in most cases ventilation does not conform to modern standards, dependence on the diffusion of air through the roof thatch as a ventilating agency being all too common.

196. The Asiatic bazaars, which must be considered the slum areas of our townships, still require constant supervision. During the year, most of them received particular attention and as a result there was some improvement, and dirt was a little less in evidence.

197. One of the main evils of the bazaars is the congestion due to the over-building of plots and over-crowding of dwellings. This can only be circumvented by legislation prohibiting both the sub-division of plots and the erection of more than one residence on a standard plot.

198. The insanitary conditions caused by congestion in bazaars are aggravated by lack of suitable drainage schemes and regulations, and by the absence in most places of an adequate and convenient water supply.

199. Some improvement in the housing of the more educated African is noticeable, though that of the peasant cannot be regarded as satisfactory. It is confidently expected that the lessons of the recent Health Exhibition in Kampala and of those to be held during 1935 will be taken to heart and that an improvement in living conditions generally will result.

200. It was considered desirable to make available type plans for many of the buildings ordinarily required. Approved plans were prepared either by the Government Architect or a Sanitary Inspector working under the direction of Medical Headquarters to serve as a guide to them in their campaign to improve housing conditions.

201. In several districts model houses were built at saza or gombolola headquarters, and it is hoped that such houses will be copied by the people; indeed, in certain districts, notably the West Nile, there is a surprising but welcome effort to build houses of our model type.

202. Small patches of cassia are being freely planted by the Forestry Department in many parts of the Protectorate, and, as the poles of these trees are not attacked by termites, they are of great value for building. Suitable poles which are at present only obtainable with difficulty will, therefore, be available for the building of good huts and it is believed that the provision of these plantations will be of great assistance in the campaign to promote better housing.

(VI) FOOD IN RELATION TO HEALTH AND DISEASE.

203. In Lango, a number of cases of scurvy occurred, and the District Medical Officer reported. :—

> "Scurvy is very prevalent amongst the Lango, particularly in children. It is most common at the end of the dry season but cases are met with throughout the year. Preventive measures are being undertaken in co-operation with the Agricultural Department which is encouraging the native to grow suitable crops which can be eaten raw."

204. Contaminated water supplies probably account for a good deal of the intestinal diseases reported and treated every year. In Kampala and Jinja there is a piped water supply, but in most of the Government stations the supply cannot be regarded as satisfactory. In the smaller townships and in the rural areas, water is usually obtained from shallow wells and pools and is often dirty, fouled, and unfit for consumption. During the year a questionnaire was sent by the Chief Secretary to all Provincial Commissioners with a view to securing the following requirements :—

(*a*) that a comprehensive programme should be drawn up without delay to provide safe water supplies to all townships;

(*b*) that close development should be prevented until satisfactory provision is made for water supplies;

(*c*) that action should be taken to protect water supplies throughout native areas.

In the introductory remarks to this report, attention is drawn to the excellent work done in the West Nile district to protect native water supplies. These results were achieved through close co-operation between the District Commissioner and the Medical Officer.

(B) Measures Taken to Spread the Knowledge of Hygiene and Sanitation.

INFANT WELFARE AND PUBLIC HEALTH EXHIBITION, KAMPALA.

205. The first Infant Welfare and Public Health Exhibition in Uganda was held in Kampala from 28th May to 30th May. A committee, appointed by the general public, and representative of all races, intended originally to stage an Infant Welfare Show, but it was eventually decided to extend this to include a demonstration of public health measures. As the date at which this was to be held coincided with a re-orientation of the policy of the Medical Department whereby preventive medicine was to be emphasised more than in the past, it was considered to be an appropriate time at which to hold such an exhibition. This committee, assisted by the Medical Department, the Entomological Section of the Agricultural Department, the Veterinary Department, and the Education Department, organised a most successful display.

206. Uganda secured second place in the competition for the Imperial Baby Week Challenge Shield, which was presented in 1926 by the *News of the World* to the National Baby Council for annual award for the best Baby Week Campaign held throughout the Empire (exclusive of the United Kingdom).

207. Commenting on the exhibition, *Mother and Child*, the official organ of the Council, stated :—

> "Kampala, Uganda, secured second place for an extremely good campaign, which followed very much the same lines as those adopted for such campaigns in this country, though it was adapted with great skill to meet the problems presented by a native and often illiterate people. A wonderful Baby Show was held during the week, for which 72 African babies and 100 Asiatic babies were entered, and a particularly forceful event in the programme was the Infant Welfare and Public Health Exhibition which attracted more than 75,000 people."

208. The Exhibition was opened on the first day by the Honourable the Chief Secretary, in the absence through illness of His Excellency the Governor After the Honourable P. L. Fenton had in a speech of welcome described how he, the speaker, Dr. R. Y. Stones and the Committee of Toc H had mooted the idea of such an exhibition, an idea enthusiastically taken up by Drs. Kauntze and de Boer. the Chief Secretary stated that, while the Medical Service of Uganda was one of which they were justly proud, the activities of the Department had hitherto been devoted mainly to curative medicine. In the future, it was intended to pay more attention to preventive measures, and one of the most important of these was to improve the standard of living of the African. The object of the exhibition was to stimulate interest in this subject. The following description of the exhibition is based on the official Report of the Chairman of the Publicity Sub-Committee.

209. On 28th May at 9 a.m. the Exhibition was thrown open to the Public, who attended in unexpected thousands. At 10 a.m. Mr. E. L. Scott, the Chief Secretary, formally opened the exhibition on behalf of His Excellency the Governor, who unfortunately was prevented from attending by his medical advisers. Speeches were delivered by Mr. Fenton who, as Vice-Chairman, and in the absence of Lady Bourdillon, invited the Chief Secretary to open the exhibition, by Mr. Scott and by Dr. de Boer, the Acting Director of Medical Services. After the speeches the Chief Secretary was conducted round the exhibition, and visited the following sections :—

210. *Infant Welfare Section.*—This was held in the Goan School, generously offered by Mr. Norman Godinho, the large school rooms of which provided admirable accommodation. The first room was set up as a Model Infant Welfare Clinic. Here two of the voluntary clinic workers, both of whom are trained nurses, assisted by the Mulago Clinic Clerk and several native midwives, demonstrated how Welfare Clinics are conducted. Several of the mothers who attend the clinic regularly brought their babies to show, and gave information about clinics from their point of view. Other exhibits included model cots made from local materials and fitted with mosquito nets, and simple garments, all of which were marked with their cost price. There was also a model maternity ward with a contrast dirty native hut by the side. There were continuous demonstrations of the bathing, general toilet, care and weighing of babies. Several thousand pamplets in English and Luganda on Infant Welfare were distributed free to those who showed an intelligent interest in this section. Dr. J. P. Mitchell, Chairman of the Medical Sub-Committee, reported as follows :—

> "The Baby Clinic attracted many visitors, particularly mothers. The care with which the babies attending the clinic were handled and examined by both European and native nurses, must have left a deep impression on those mothers who had not had experience of these clinics, and it is hoped they will seek advice therein."

211. *Food Section.*—Half of the adjoining room was devoted to a display of suitable infant foods. This was divided into three main parts :—

A. Preparation of milk mixture when breast feeding was not available.
B. Foods suitable for African toddlers up to five years.
C. Foods suitable for Indian, Goan and European toddlers up to five years.

Each of these subjects was demonstrated by trained helpers.

212. *Prize Babies.*—The baby pans in which were placed the prize winners of the Baby Show, were on the opposite side of the room, and the points of excellence discovered by the judges were demonstrated. Few, however, were so interested in this as in the story of the preparation of the children's food, of the causes and treatment of constipation and diarrhœa, of over-feeding and under-feeding, and of the care of the feeding utensils. The better educated classes revealed an intense interest in this section, both mothers and fathers alike spending long periods taking notes, and many were seen to return on several occasions. The lower classes were sceptical. They doubted the statement that these foods were the products of their own garden and felt that these preparations would entail costs which they could not afford.

213. *Needle Work.*—The next room was devoted to exhibits of clothes for babies and children of varying ages, the work of elementary or senior schoolgirls. One of the most practical and cheap garments displayed for sale was a suit for a small boy which consisted of an upper half of aertex, with amerikani shorts attached to the top half by large buttons.

214. Throughout the three days of the Exhibition there was an incessant flow of sightseers passing through this room, and the high standard of work revealed received the enthusiastic comments of all visitors.

215. *Anti-Venereal Campaign.*—The next room was devoted to Anti-Venereal propaganda. Venereal disease has for long been a scourge in Buganda. A lady doctor and two trained African attendants were in charge of this section. Dr. J. P. Mitchell reported:—

> "The Venereal Diseases Section with its graphic and statistical posters drew a great deal of attention and, strangely enough, even here where anti-venereal propaganda has been in vogue for so many years, expressions of astonishment were common when the result of neglected infection were appreciated."

216. *Model Maternity Ward.*—The next room was set up as a model Maternity Ward, bright and well furnished, while the adjoining room represented the conditions in a low class hut. The maternity ward was staffed by two African midwives and at times a convalescent mother and baby from the Mulago Maternity Ward occupied the bed. In the contrast dirty hut, conditions which are still all too prevalent were shown, and the results of African medicine were explained. Two Baganda women acted the part of the old-fashioned African attendants and the mother.

217. In all the above sections appropriate posters were displayed, and many thousands of pamphlets were given out by the attendants.

218. *Baby Show.*—In the basement of the building was held the Baby Show which was one of the features of the Exhibition. Two days were devoted to African babies and one to Asian. For the African section, any mother who presented her baby within certain hours was admitted, but as transport could not be provided to bring competitors from a distance, there were only 72 entries. The standard, however, was very high. There were also over 100 Asian babies. Cots made locally, with grass-filled mattresses and mosquito-nets, were given as first prizes in the hope that others might be inspired to adopt their use.

219. Prizes were awarded in the following classes:—

Class I. Breast fed babies; age birth to six months.
Class II. Breast fed babies; age six months to one year.
Class III. Breast fed babies; one year to three years.
Class IV. Native toddlers; three years to five years.
Class V. Bottle fed babies; age birth to nine months.

There were separate divisions for Native, Indian and Goan babies.

220. It is interesting to note that on the second day it was found that one Munyankole woman who brought her two children to be judged had obtained a first prize for each, one in Class II and one in Class IV.

221. *Educational Exhibits.*—Outside the Goan School a number of temporary buildings were erected to house the other educational exhibits and the trade exhibits.

222. *Model Houses.*—One large stall contained the exhibits which excited probably the most general interest. In addition to models of modern hygienic houses were crude models of native mud huts, round mud huts of Nilotic pattern, pottery and exhibits of handwork. All these models were made by school children.

223. On each day, European and African members of the Education Department were at hand to explain all that was best in the exhibits, and to point the lessons of hygiene, sanitation and public welfare which they exemplified.

224. *Laundry Work.*—In another large hall, demonstrations of washing and ironing were given by girls from various schools in the Protectorate.

Other stalls showed exhibits of mats, baskets, and bags of raffia, articles of domestic use, and furniture.

225. *Trade Exhibits.*—Ten firms displayed attractive stalls.

226. *Public Health Exhibition.*—The Public Health Exhibition was situated some little distance away from the Goan School and on the other side of the road. This exhibition conceived on a broad scale formed a spectacle that attracted the interest of thousands even before the exhibition opened.

227. The following were the main features :—

Model Native Restaurant.—This building in all respects save size resembled the ordinary African building commonly used for the purpose. Inside it was light and airy, the floor clean, the food cooked in separate kitchens, and stored in fly-proof containers. Clean tables, benches and plates were provided.

228. *Model Butchery.*—These were two stalls arranged and managed by the Uganda Company and the Model Dairy. These stalls demonstrated hygienic methods of storing fresh meat.

Dirty Butchery.—This showed the normal African butchery, with the usual dirty, fly-blown meat and filthy floors and utensils.

229. *Dirty House.*—This was a typical dark, dirty, ill-ventilated house, with low doorway. It was divided up into several very small rooms and badly thatched, and provided a harbourage for rats, fleas, chickens and goats as well as for human beings.

230. *Model Shop.*—This building was occupied by the Uganda Bookshop and demonstrated a well-built and properly conducted shop.

231. *Model Wattle and Daub House.*—This showed a well-ventilated house, light and airy even when the doors and windows were closed, with large rooms. In this type, the contruction of the walls makes it difficult for rats to lodge in them while the step thatch minimises the possibility of their harbourage. Only materials which are readily available were used.

232. *Permanent House built by Uganda Company.*—This was a burnt brick two-roomed house with concrete foundations and damp-proof course. There was a cement floor, corrugated iron roof with a ceiling, guttering and a tank. The cost within five miles of Kampala is Shs. 1,800.

233. *Model Round Hut.*—This showed an ordinary round hut with ventilation, a high doorway, good walls and floors, and well thatched.

234. *Leper Shelter.*—Leper shelter showing typical cases of leprosy. Pictorial and other posters gave much information about this dread disease, while leaflets about leprosy were distributed.

235. *Model House for Tuberculous People.*—This showed a hut suitable for tuberculous people.

236. *Defective and Model Wells.*—These contrasted the usual contaminated water supply, with a properly protected shallow well, and a deep well with a pump.

237. *Nigerian Hut.*—This type of hut, the peculiar feature of which is that no timber (which is liable to decay and to attack by white ants) is required was shown both in sections and in course of construction. This form of hut is considered to be particularly suitable in districts where timber is scarce.

238. *Defective and Model Granaries.*—Two granaries were built side by side, the one the type commonly seen, badly constructed and readily accessible to rats; the other well built and protected from rats by guards made from petrol tins. Suitable storage for grain has for some time past been engaging the attention of the Medical Department, and it is considered essential to make granaries rat-proof from the point of view both of preserving the food from the depredations of rodents and of the prevention of plague.

239. *Entomological Exhibits—Mosquitoes.*—This exhibit explained the life history of the common mosquitoes. Both educated and uneducated natives displayed a keen interest in this section.

Rats, Fleas, Ticks and Lice.—The first exhibit showed live rats loose in a large model of two houses, one with a clean, the other with a dirty compound. This demonstrated that rats shelter in dirty compounds. Other exhibits were living *R. rattus*, and skins of this species and a few of the more important field rats of Uganda; live fleas; rat traps containing rats; cyanogas and pump; and hypodermic syringes with vaccine. The next exhibit consisted of a few of the common flies of Uganda; methods of protection of foodstuffs; spirillum ticks; and lice. This again was very popular with the natives.

240. *Sleeping Sickness Section.*—This section showed photographs of tsetse fly traps; graphs on the influence of climatic conditions and anti-tsetse clearing; exhibits of live flies and pupæ; fly traps actually working, and an artificial breeding shelter.

241. *Veterinary Exhibits.*—These displayed various parts of the carcase of diseased animals; hygienic and dirty methods of milking, and model sheds and dirty cattle kraals.

242. Other exhibits were of foods, locally grown, together with their food value; of helminths, their life history; control and treatment; a model latrine with concrete stance; model and dirty kitchens, and methods of storing food; and a *pisé-de-terre* house in course of construction.

243. *Health Plays.*—On each afternoon health plays were given by various schools in the Goan Insitute, which the committee kindly lent for the purpose. They were seen by over 5,000 people. The following plays were presented:—

1. Ante-natal and maternity tableaux by Nsambya Mission Midwives in training, illustrating the value of ante-natal and hospital treatment, and the dire results of the common native medicines used in child-birth.

2. "Plague Play," illustrating cause and prevention of plague.

3. "Worm Play," illustrating cause and prevention of helminthic affections, by King's College, Bu·do.

4. Two ways of treating an invalid, illustrating witch doctor and modern medical treatment, by C.M.S. School, Gayaza.

5. "A few things Hygiene can teach us," illustrating uneducated and educated methods of life, by C.M.S. School, Gayaza.

6. "Health Play," showing examples of unhygienic and hygienic methods of living, by C.M.S. School, Gayaza.

7. Demonstration of sick nursing and simple first aid by Senior Girls, C.M.S. School, Gayaza.

8. "Old and New Customs," illustrating abuse of some of the new customs, by Iganga C.M.S. School, Busoga.

9. "Dirty and Clean Methods of Housewifery and Infant Care," by Busoga C.M.S. College, Jinja.

244. *Attendance.*—As admission was free, no exact figures of those who visited the exhibition can be given. The following is an estimate:—

On the first day not less than 35,000.
On the second day not less than 25,000.
On the third day not less than 15,000.
A total of not less than 75,000.

245. *Programmes.*—500 English and 8,000 Luganda programmes were printed. Although the price of the latter was quickly raised from 2 cents to 5 cents, the number proved to be quite inadequate and a reprint of that part dealing with the Public Health Section was made, and of these 3,000 were sold and 3,000 given away to schools. In addition to those contained in the programme, 7,000 illustrations and plans of the model domestic buildings were distributed free. Nearly 50,000 copies of some twenty different leaflets dealing with various diseases and aspects of Infant Welfare and Public Health were given away to those who showed an intelligent interest in the exhibition.

246. *Visitors.*—His Excellency the Governor visited the exhibition on the third morning, and sent the following telegram to the Vice-Chairman :—

> "My heartiest congratulations on a really excellent show. I did not imagine it possible for Uganda to produce anything so good at its first effort. I saw many similar exhibitions in Ceylon, but never a better, and I look for great results."

247. The Right Reverend the Bishop of Uganda sent the following letter to the Director of Medical Services :—

> "I think it has been an amazingly fine effort, and as far as I can gather from conversation with the natives, all of whom are talking about it, they really have taken in the lessons so ably illustrated in the exhibition."

His Highness the Kabaka visited the exhibition on the first day, and showed great interest in everything he saw.

Parties of Chiefs from every part of the Protectorate were brought to Kampala to see the exhibition. In many cases, they were conducted round by the Medical Officer of the district concerned, who explained the various exhibits, and the lessons they inculcated.

Some 5,000 school children attended the exhibition, and special arrangements were made by the Education Department for their instruction.

All the Provincial Commissioners, some twenty Administrative Officers, nearly all the Medical Officers in Government service, and many mission doctors visited the exhibition.

It is safe to say that through these visitors attention was drawn to the Exhibition in every corner of the Protectorate.

248. *Native Impression of the Exhibition.*—Dr. Mitchell, Chairman of the Medical Sub-Committee, reported :—

> "I asked for impressions from a number of educated natives, and from this class there was a general chorus of appreciation of the whole Exhibition. It is, however, my own and the general native impression that the uneducated and the labouring classes derived little benefit from our efforts. Demonstrators frequently remarked that these people were bored. It was, however, gratifying to observe the intense interest of the literate and educated section who were in the vast majority and who are desirous of improving their social conditions."

249. The following essay by a Makerere student showed that he had grasped the lessons of the exhibition :—

"The Public Health and Child Welfare Exhibition.

This exhibition was held in Kampala, Uganda, on 28th, 29th and 30th May. It was intended to show the natives and also Europeans and Asiatics, the greatest enemies to our lives and how we could protect ourselves from them. It was held in Kampala, the largest town of the Protectorate, so that many people may attend it. It cost a big sum of shillings but the admission was free. The exhibition was arranged and organised in a very clever way, and that was the chief cause for its success.

They taught the people by showing them the contrast between bad and good things. What we must do and what we must not do. They, for instance, built two good, airy and hygienic houses and then two of the type of the poor natives, having one door, no window nor any ventilator. They made a European water supply and also a bad native well full of mosquito larvae and amoeba and so on.

Now in each house they found Native Medical Assistants who explained them why the houses were bad or good. Those who were in bad houses told them how they can make their houses clean and what diseases may be caused by such bad houses. Those who were in good ones also showed the people the good of cleanliness and they cannot be attacked by plague and other diseases if they lived in such houses. Those who were stationed in a house where a patient of a certain disease should live explained to every one the cause of the disease how it is caught and how it can be prevented. The same was done in markets and shops.

Then the Veterinary Department showed us how meat and milk are the chief carriers of disease germs. They showed many species of various diseases found in our cows killed in local markets. Then after showing the people the simple signs of diseased or infected meat told them never to eat such meat when they see it

People were then shown flies, fleas, ticks, mosquitoes and tsetse flies either living or in models or drawings and after a short lecture on the diseases each produces, they told them the way to destroy them. There was then a part where people saw the food which has necessary properties for our lives and which has not, telling them that they should always eat many varieties of food; because most people in this country live chiefly on matoke only which has few of the necessary properties we require for our bodies.

Wherever the spectators went they found experienced men ready to explain everything with the help of pictures and when leaving that place they were given printed papers which they could read at home for themselves and for their friends who had not gone to the exhibition.

In short they tried to show everyone that cleanliness is the most important and the first thing if we want to protect our lives. That we should clean every place, public and private if we want good life and prosperity in our country.

Again there was a children's show. All native and Asiatic mothers were asked to bring their babies to the show. After examination the mothers who had best babies were awarded prizes. This was to encourage mothers to care for their children in the best ways that they may be healthy because the future of the country depends on the health of the children. Also healthy babies means healthy mothers; no diseased mother can have the first prize for the best baby so it did not concern only babies in this respect.

In every afternoon school boys and girls performed plays showing what good homes can look like and how we can make our homes clean and why they must be clean. They used to question one another and the answers were answered by other boys who were performing. It was a very useful and instructive performance. Now this exhibition was very successful and that can be shown by its popularity. Thousands of people attended it each day and they all liked it. Everyone went home with something new from the exhibition.

It was useful to everybody, but most especially to the uneducated Africans. To the little boys and girls of Elementary Schools it was very helpful too. So from that I conclude that the exhibition extremely benefitted the people and as the people liked it, it may gradually do a lot of good to the country. It really showed the good feeling which the British Government has towards this country to spend such a great sum of money just to show us how we can protect our lives."

250. It is hoped that, if, as the above opinions prove, the educated classes have learnt the lessons taught by this exhibition, they will quickly practice more hygienic methods of living, and that it will not be long before the lower strata of society follow their example.

251. It is proposed to hold similar exhibitions in Mbale (in the Eastern Province) and in the Northern Province during 1935.

252. *Other Measures.*—Posters on many subjects connected with the prevention of disease were issued during the year and were displayed at saza and gombolola headquarters, hospitals, dispensaries, etc. Medical Officers addressed Lukikos and native gatherings on health matters, and on maternal and infant welfare.

(C) Training of Sanitary Personnel.

253. While some instruction was carried out by the Senior Medical Officer, Kampala, the Medical Officer of Health, Jinja, and the Sanitary Inspector at Soroti, little other regular training was undertaken. During 1935 an Instructor in Hygiene is to be appointed who will commence the training of sanitary assistants on similar lines to those which have been so successful with Medical Assistants. A course of instruction for Sanitary Orderlies is being drawn up for the guidance of European Sanitary Inspectors who will be charged with the teaching of Africans attached to them as learners. A central examination will be held at the end of the period of instruction, and those who pass will be given employment under Government.

SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION.

254. Not applicable.

SECTION V.—MATERNITY AND CHILD WELFARE.

255. *Maternity and Child Welfare.*—Considerable extension of maternity and child welfare work took place during 1934, and in many districts clinics devoted to ante- and post-natal welfare were in being. A larger number of women than in any previous year came for supervision during their pregnancy, while it was obvious from the number of infants who were brought up for advice that mothers are beginning to appreciate the importance of post-natal clinics. It was a gratifying feature that numbers of healthy infants were brought up regularly to be weighed and generally looked after.

256. At Mulago Hospital, the clinic established by Dr. H. M. Twining was carried on by that lady until the middle of the year and afterwards by Mrs. Priestly, while a clinic for Asian and African babies, supervised by Mrs. Hodson, was instituted at the old civil hospital. In Entebbe, the clinic started by Mrs. Lutze-Wallace was carried on by the medical officer and sister when she went on leave, and was much appreciated by the women. On 1st January, a maternity centre was opened at Bugembe, near Jinja, and towards the middle of the year post-natal clinics were commenced. Successful infant welfare work was also done in Toro, Teso, Ankole, Lango and Bunyoro.

257. 1,101 women were admitted to Government institutions for their confinements, and 979 living babies were born. There were 67 maternal deaths. At first sight, this appears to be a very high proportion, but it is to be remembered that many of these occurred in women who had taken native ecbolic drugs and who were moribund on admission.

258. The following table gives the number of confinements with their results at certain institutions:—

	Confinements (excluding miscarriages).	Still-Births.	Living babies.	Maternal deaths.	Infant death (excluding still-birthss)
Entebbe Maternity Centre	75	5	72	2	4
Mulago Hospital	265	18	247	7	11
Kibale Sub-dispensary (Mubende District) ...	109	15	94	—	—
Masaka Hospital	299	24	275	14	20
Bugembe Maternity Centre (Busoga) ...	150	11	140	3	1
Total for the Protectorate	1,101	122	979	67	44

259. The following table shows the number of infants attending certain welfare clinics:—

	Infants.	Number of Attendances (including first).
Entebbe	397	986
Kampala	223	434
Mulago	323	1,149
Masaka	111	254
Bugembe	147	693
Masindi and dispensaries	412	6,694
Soroti	1,230*	2,006*
Lira	2,380*	no record.
Mbarara	1,158*	6,890*
Fort Portal and dispensaries	15,044*	36,088*
Totals for the Protectorate	21,688	55,593

* Includes sick infants who attended for ordinary hospital treatment.

260. There can be no doubt that infant welfare clinics will, before long, reduce the heavy infant mortality which for the whole Protectorate was, in 1934, 188 per thousand. In Bunyoro, for example, where such clinics were established some years ago, the infant mortality which in 1929 was 382 per thousand live births, was reduced to 136 per thousand in 1934.

261. *Training of Midwives.*—This is undertaken by the Lady Coryndon Maternity Training School and the Nsambya Maternity Training School.

Two examinations, in July and December, were held for the Certificate of the Uganda Midwives Board. Eleven girls, eight from the Lady Coryndon and three from the Nysambya Training Schools, sat for the examination in July. Three gained their certificates. Of the remainder four failed, while four were referred for three months; two in ante-natal examination, one in that subject and the taking of pulses, and one in the taking of pulses only. All these girls satisfied the examiners in September.

In December, seven girls from the Lady Coryndon and three from the Nsambya Training Schools were examined and six were granted certificates. Of the remaining four, all were referred for three months in ante-natal examination, and two for pulse taking in addition.

262. *Excerpts from Dr. A. T. Schofield's report on the Lady Coryndon Maternity Training School:—*

> "During 1933, there were in training thirty-three pupils, ten of whom sat for the examination and were awarded their certificates."

263. *Country Centres.*—One new maternity centre, at Lira, was opened during the year. European certificated midwives were stationed at the centres at Mukono, Mbarara and Iganga, but, as the Nurses Training School was transferred from Nde·je to Mengo in November, the European staff was withdrawn from the former place.

264. The following statistics are taken from Dr. Schofield's report:—

TABLE I.—OUT-PATIENTS, CENTRAL INSTITUTION, NAMIREMBE.

	1932.	1933.	1934.
Total out-patient attendances	5,083	4,844	4,800
New patients	1,475	1,440	1,266
Syphilitic patients (latent and active)	867	783	578
Babies	726	744	762

TABLE II.—IN-PATIENTS IN THE CLINICAL WARDS ATTACHED TO THE TRAINING SCHOOL.

	1932.	1933.	1934.
Admissions during the year	656	688	520
Babies born before admission	31	29	26
Miscarriages	10	24	17
Still-births	33	49	55
Infant deaths	25	25	30
Total confinements, including those born before admission	292	310	341
Maternal deaths	12	14	28

TABLE III.—OPERATIONS IN THE CENTRAL INSTITUTION.

Total operations	77	Removal of placenta or membranes	13
Caesarean section	9	Ruptured ectopic gestation ...	1
Forceps delivery	40	Miscellaneous	10
Perforation	4		

TABLE IV.—CAUSES OF DEATH.

Maternal:—		*Infantile:*—	
Obstructed labour	4	Prematurity	19
Delayed labour	7	Syphilis	4
Ruptured uterus	6	Bronchitis	1
Ruptured ectopic gestation ...	1	Sepsis of cord (both born before admission)	2
Mania	1	Native medicine	1
Toxaemia of pregnancy ...	1	Acute anaemia	1
Embolism following Caesarean section	1	Haemorrhage from cord (born before admission)	1
Septicaemia	2	Acute respiratory obstruction ...	1
Pneumonia following still-birth ...	3		
Retained placenta	1		
Placenta praevia	1		

Table V.—Country Centres.

Centre.	Confinements.	Babies born before admission.	Living children born.	Still-births.	Miscarriages.	Threatened miscarriage.	Maternal deaths.	Infant deaths.	Ante-natal supervision.	Child Welfare.
Bushenyi ...	20	5	24	1	1	1	...	...	1,002	132
Hoima ...	10	1	11	...	...	1	...	...	1,183	293
Ibanda ...	29	5	33	1	...	...	...	...	1,782	629
Jungo ...	51	2	50	3	2	3	1	3	1,508	314
Kabasanda ...	49	3	46	6	1	5	1	1	2,958	280
Kabuwoko ...	62	13	69	6	3	...	...	1	2,926	596
Kabwobe ...	22	1	22	1	...	...	...	...	707	186
Kako ...	34	9	42	1	4	2	...	1	2,053	218
Kapeka ...	19	2	21	...	1	4	...	2	1,757	264
Kasaka ...	30	4	30	4	...	...	...	1	2,043	392
Kiboga ...	36	2	37	1	...	...	...	...	1,950	243
Kikoma ...	20	12	29	3	...	...	...	...	1,818	418
Kira* ...	27	3	29	1	...	...	...	...	1,170	234
Lutete ...	20	5	23	2	...	1	...	...	1,112	279
Luwero ...	20	3	21	2	5	7	...	...	1,535	254
Mbarara* ...	37	2	38	1	...	...	1	...	1,611	324
Mityana ...	44	3	41	6	2	...	...	...	1,978	177
Nakifuma ...	129	8	120	17	13	...	...	...	3,801	783
Namulonge ...	59	1	52	8	2	...	1	...	2,271	476
Ngogwe ...	66	8	69	5	3	3	...	6	3,423	509
Ndeje* ...	83	13	79	17	10	17	9	10	5,477	826
Mukono ...	168	20	175	13	8	7	2	5	2,457	1,676
Total ...	1,035	125	1,061	99	55	51	15	30	46,522	9,503

*Returns incomplete.

265. *Excerpt from Reverend Mother Kevin's Report on Nsambya Maternity Training School :—*

Number of students in training during the year 24
Number who passed the Government examination 3
Number of patients in the Clinical Wards attached to the Junior and Senior Schools at Nsambya :—
- Confinements 150
- Still-births 8
- Miscarriages 8
- Maternal deaths 1
- Living children discharged 137
- Instrumental deliveries 10
- Deliveries by Caesarean section 5
- Perforations and cranioclasm 2
- Children attending Welfare Centre 450

County Centres.

	Ante-natal Cases.	Confinements.	Miscarriages.	Still-births.	Maternal deaths.	Living children discharged.	Child Welfare.
Kisubi	175	69	5	5	Nil	57	67
Katende	...	...	...	No	return	...	...
Bikira	428	83	1	5	Nil	83	83
Mitala Maria	474	151	...	No	return	...	450
Nkokonjero	1,216	110	14	12	2	104	165
Budaka	661	23	...	No	return	...	Nil
Nagongera	26	9	...	No	return	...	5
Nyondo	423	9	...	No	return	...	Nil
Kamuli	145	107	Nil	4	6	102	67
Nagalama	605	82	11	20	4	53	147
Lwala	291	35	4	2	1	30	30
Namilyango	212	26	...	No	return	...	20
Gayaza	605	41	...	No	return	...	Nil
Rubaga	120	78	6	Nil	Nil	70	180
Ngora	193	8	3	Nil	Nil	8	78
Villa Maria	450	194	...	No	return	...	332
Nyenga	413	89	...	No	return	...	9

266. The Reverend Mother Kevin reported that twenty-four students were in training, while many had to be refused admission as their standard of education was insufficiently high, and the failure of three of those who sat for the examination was attributed to this cause. There was, however, a marked improvement in both the theoretical and practical work, due to the able tuition of Dr. M. T. Wilson.

267. The nurses' quarters were renovated and extended.

268. The administration of native medicine is said to be very much on the decline in the more civilised parts of the country, but is still very frequent in the more remote districts, particularly in Buddu, Busoga, Budama, and the Northern Province.

269. Child welfare work was extended, and on the whole met with encouraging results.

270. *County Centres.*—Butiti and Koki were closed down during the year owing to poor support. No new centres were opened, but Sisters have now taken over Lwala, in Lango, where the work has since gone ahead. In certain parts some difficulty was experienced in obtaining sufficient labour from the Native Administration, and this handicapped the work.

SECTION VI.—HOSPITAL AND DISPENSARIES.

271. The following sums have been spent by the Public Works Department on medical buildings during the year:—

	£	shs.	cts.
NEW WORKS AT—			
KAMPALA:—			
European hospital: male and female attendants' quarters ...	882	0	00
MULAGO:—			
Mental hospital	8,708	0	00
Drainage	650	0	00
GULU:—			
Hospital	4,175	0	00
Senior African Medical Assistant's quarters	181	0	00
Miscellaneous buildings (include temporary buildings)	1,502	0	00
Miscellaneous minor works	300	0	00
Maintenance of and improvements to buildings	1,246	10	16
	£17,644	10	16

Table G shows medical units, beds, attendances, etc., for the Protectorate by districts, and a list of sub-dispensaries open or under construction in 1934 appears at page 49.

Table H sets out details of the activities of the Pharmaceutical Section of the Medical Store for the last seven years.

TABLE G.—MEDICAL UNITS, BEDS AND PATIENTS BY DISTRICTS.

	BUGANDA PROVINCE.					WESTERN PROVINCE.				EASTERN PROVINCE.							NORTHERN PROVINCE.							UGANDA PROTECTORATE.
	Entebbe District.	Mengo District.	Masaka District.	Mubende District.	PROVINCE.	Toro District.	Ankole District.	Kigezi District.	PROVINCE.	Busoga District.	Budama District.	Bugishu District.	Bugwere District.	Teso District.	Karamoja District.	PROVINCE.	Lango District.	Bunyoro District.	Gulu District.	Chua District.	Madi Sub-District.	West Nile District.	PROVINCE.	
Medical Units.																								
European Hospitals	1	1	...	...	2	...	...	...	...	1	...	...	1	...	...	2	...	...	...	...	...	...	...	4
Asiatic Hospitals	1	1	1	...	3	...	...	...	...	1	...	...	1	1	...	3	1	2	...	...	...	...	3	9
African Hospitals	1	2	1	1	5	1	1	1	3	2	1	1	1	1	1	7	1	3	1	1	1	1	8	23
Sub-Dispensaries	1	8	6	6	21	9	4	4	17	6	3	3	3	4	...	19	3	8	3	2	4	9	29	86
In-Patients.																								
BEDS AVAILABLE:																								
European	7	20	...	...	27	...	...	...	...	4	...	...	3	...	...	7	...	...	...	...	...	...	...	34
Asiatic	4	29	3	...	36	...	...	...	...	6	...	...	2	4	...	12	4	4	...	...	...	...	8	56
African in Hospital	51	302	132	28	513	40	47	49	136	113	40	20	87	53	10	323	54	81	34	33	36	40	278	1,250
African in Sub-Dispensaries ...	20	...	10	64	94	110	64	93	267	62	10	50	75	28	...	225	40	...	3	2	5	20	70	656
TOTAL ...	82	351	145	92	670	150	111	142	403	185	50	70	167	85	10	567	98	85	37	35	41	60	356	1,996
CASES ADMITTED:																								
European	32	308	...	...	340	...	...	...	...	23	...	...	35	...	...	58	...	...	...	...	...	...	...	398
Asiatic	30	690	17	...	737	...	...	...	...	52	...	...	17	12	...	81	11	15	...	...	...	...	26	844
African	827	7,085	2,455	419	10,786	693	2,334	2,593	5,620	4,103	881	324	1,345	1,489	176	8,318	2,375	1,463	952	764	234	1,446	7,234	31,958
TOTAL ...	889	8,083	2,472	419	11,863	693	2,334	2,593	5,620	4,178	881	324	1,397	1,501	176	8,457	2,386	1,478	952	764	234	1,446	7,260	33,200
TOTAL NUMBER OF IN-PATIENT DAYS ...	134,00	112,586	41,839	5,573	173,038	8,302	14,686	36,338	59,326	59,432	17,776	2,455	17,153	19,722	2,495	119,033	14,423	24,360	17,448	15,743	8,996	30,435	111,405	462,802
AVERAGE DAILY NUMBER IN WARDS ...	35·7	308·5	114·6	15·3	474·0	22·7	40·2	99·5	162·5	162·8	48·7	6·7	46·9	54·0	6·8	326·1	39·5	66·7	47·8	43·1	24·6	83·4	305·2	1267·9
Out-Patients.																								
Attendances	67,595	373,663	166,937	141,411	749,606	193,244	276,855	163,165	633,264	181,211	109,512	89,033	95,980	241,732	8,105	725,573	226,349	302,391	134,552	80,400	91,827	265,353	1,100,872	3,209,315
Total New Cases.																								
European	501	1,592	23	22	2,138	24	22	30	76	336	76	13	146	71	6	648	49	152	23	9	2	38	273	3,135
Asiatic	687	2,055	486	69	3,297	27	76	34	137	1,275	732	35	360	364	1	2,767	662	702	124	24	4	66	1,582	7,783
African	15,492	95,870	35,190	28,543	175,095	67,457	52,752	18,628	138,837	80,522	32,303	42,734	42,385	77,055	2,212	277,211	58,907	37,452	38,529	17,902	19,574	56,815	229,179	820,322
TOTAL ...	16,680	99,517	35,699	28,634	180,530	67,508	52,850	18,692	139,050	82,133	33,111	42,782	42,891	77,490	2,219	280,626	59,618	38,306	38,676	17,935	19,580	56,919	231,034	831,240
MEDICAL EXAMINATIONS	2,715	9,340	5,270	373	17,698	1,172	4,530	230	5,932	1,889	934	1,330	1,634	2,048	61	7,896	1,584	14,157	3,998	836	39,940	57,874	118,389	149,915
GRAND TOTAL	19,395	108,857	40,969	29,007	198,228	68,680	57,380	18,922	144,982	84,022	34,045	44,112	44,525	79,538	2,280	288,522	61,202	52,463	42,674	18,771	59,520	114,793	349,423	981,155
Surgical Operations.																								
General Anæsthesia	80	1,403	163	55	1,701	20	23	60	103	286	112	...	178	64	2	642	231	210	26	12	9	25	513	2,959
Spinal Anæsthesia	...	13	58	...	71	...	...	...	...	...	...	...	5	...	...	5	...	...	11	...	...	...	11	87
Other Anæsthesia	210	280	188	11	689	10	10	65	115	163	50	...	24	45	...	282	388	54	128	14	12	68	664	1,750
TOTAL ...	290	1,696	409	66	2,461	30	33	155	218	449	162	...	207	109	2	929	619	264	165	26	21	93	1,188	4,796

Table H.

In the following table is set out the amounts of some preparations manufactured, wholly or partly, in the Pharmaceutical Section of the Medical Store during the past seven years.

		1928.	1929.	1930.	1931.	1932.	1933.	1934.
Tincture	*pts.*	2,533	4,420	5,236	4,954	4,323	3,137	2,217
Liniments	,,	2,455	3,879	3,843	3,873	3,202	2,273	2,852
Ointments	*lbs.*	6,604	10,389	12,313	11,024	14,061	11,376	17,848½
Dusting powder	,,	303	602	700	800	813	320	700
Infusions, conc.	*pts.*	752	1,236	1,256	1,064	864	464	482
Hard soap	*lbs.*	10,910	14,370	6,250	...	9,156	...	...
Soft soap	,,	5,426	6,096	8,838	9,280	...	9,855	11,027
Sundries	,,	3,933	5,108	5,187	5,905	1,773	1,277	506½
Bismuth sod. pot. tart.	,,	40	24	5	17½	45	33½	42½
Cataplasma Kaolin	,,	...	...	...	...	...	640	1,003
Insecticide	*pts.*	...	...	...	...	...	296	746
Oxymels and syrups	*lbs.*	...	...	...	...	...	1,323	1,175
Glycerin preparations	,,	...	...	...	...	...	226	522
Liquors	*pts.*	...	...	...	...	...	786	2,032
Spirits	,,	...	...	...	...	...	468	653
Injections and Suspensions ;								
Bismuth Oxid. 30 cc.	*bots.*	...	...	...	...	...	...	cc. 166,460
Emetine Hyd. 10 cc.	,,	...	...	...	...	...	cc. 1,800	,, 5,720
Quinine Bihyd. 10 cc.	,,	...	...	...	...	...	,, 3,500	,, 11,360
Camphor in oil		...	...	...	...	...	...	,, 490
Thiosinamin		...	...	...	...	...	...	,, 330

A List of Sub-Dispensaries Open or Under Construction in 1934.

Name.	District.	New Cases 1934.	Attendances 1934.	Year opened.	Remarks.
Mukono ...	Mengo ...	4,024	19,629	1923	Permanent buildings. Ward not in use.
Kasangati ...	,, ...	4,822	13,441	1923	,, ,, ,, ,,
Bowa ...	,, ...	9,172	24,172	1923	Permanent buildings. No ward.
Kalagala ...	,, ...	6,292	18,070	1930	,, ,, ,, ,,
Kome ...	,, ...	722	2,475	1923	Island dispensary. Temporary buildings.
Buvuma ...	,, ...	1,017	4,271	1923	,, ,, ,, ,,
Nakasongola ...	,, ...	3,380	14,081	1931	Temporary buildings.
Wakiso ...	,, ...	5,510	12,369	1923	Permanent buildings. No ward.
Mpigi ...	Entebbe ...	4,570	16,200	1923	,, ,, ,, ,,
Mubende Hill ...	Mubende ...	2,654	8,887	1926	Temporary buildings.
Mityana ...	,, ...	6,750	17,665	1923	Permanent buildings.
Kibale ...	,, ...	4,410	22,903	1926	Temporary buildings.
Kakumiro ...	,, ...	3,468	17,018	1928	,, ,,
Madudu ...	,, ...	2,286	10,829	1928	,, ,,
Kyanasoke ...	,, ...	2,394	14,238	1931	,, ,,
Kalungu ...	Masaka ...	6,352	25,148	1927	,, ,,
Kalisizo ...	,, ...	4,615	25,682	1923	,, ,,
Katera ...	,, ...	2,141	6,874	1926	Permanent buildings.
Kalangala ...	,, ...	2,255	7,120	1923	Temporary buildings. Island Sub-dispensary.
Rakai ...	,, ...	3,716	9,091	1927	Temporary buildings.
Lyantonde ...	,, ...	4,525	17,821	1927	,, ,,
Kaliro ...	Busoga ...	7,828	7,740	1927	Permanent buildings. Ward for 30 beds.
Namwendwa ...	,, ...	16,778	13,660	1925	Permanent unit built 1932. Ward for 38 beds.
Bugiri ...	,, ...	7,074	6,109	1925	Temporary buildings.
Namungalwe ...	,, ...	8,843	9,473	1925	,, ,,
Nsinze ...	,, ...	11,455	8,265	1927	,, ,,
Kityerera ...	,, ...	1,681	1,851	1933	,, ,,
Nagongera ...	Budama ...	7,688	28,981	1927	,, ,,
Butaleja ...	,, ...	6,708	15,341	1927	,, ,,
Masafu ...	,, ...	10,144	15,483	1926	Permanent buildings. Ward for 10 beds.
Budadiri ...	Bugishu ...	17,462	15,406	1922	Temporary buildings.
Butiru ...	,, ...	9,481	5,793	1931	,, ,,
Bulecheke ...	,, ...	9,455	15,445	1931	,, ,,
Budaka ...	Bugwere ...	11,220	7,392	1930	,, ,,
Kamuge ...	,, ...	8,159	12,346	1922	Permanent buildings. Ward for 21 beds.
Bukedia ...	,, ...	12,480	17,468	1926	Permanent buildings.
Katakwe ...	Teso ...	12,870	23,596	1926	Temporary buildings.
Serere ...	,, ...	20,541	32,563	1924	Permanent buildings.
Amuria ...	,, ...	12,780	18,497	1924	,, ,,
Kamod ...	,, ...	9,494	24,915	1931	Temporary buildings.
Kakabara ...	Toro ...	4,878	7,063	1922	Semi-permanent buildings.
Kasule ...	,, ...	6,407	9,591	1930	Temporary buildings.
Butiti ...	,, ...	7,717	6,409	1925	,, ,,
Bundibugyo ...	,, ...	6,801	17,017	1926	,, ,,
Kisomoro ...	,, ...	12,863	26,680	1926	,, ,,
Bugoye ...	,, ...	4,416	4,740	1932	,, ,,
Mpondwe ...	,, ...	3,642	9,694	1932	,, ,,
Kanyampara ...	,, ...	3,522	17,451	1933	,, ,,
Rwaitengya ...	,, ...	5,280	5,284	1932	,, ,,
Bushenyi ...	Ankole ...	7,105	28,330	1922	Permanent buildings.
Lwasamaire ...	,, ...	11,415	39,453	1922	,, ,,
Ruhoko ...	,, ...	11,725	68,314	1922	Temporary buildings.
Kinoni ...	,, ...	4,617	10,851	1931	Permanent buildings.
Mpalo ...	Kigezi ...	3,210	24,896	1922	Temporary buildings.
Rukingiri ...	,, ...	2,323	21,500	1922	Semi-permanent buildings.
Kinkizi ...	,, ...	1,892	30,435	1922	Temporary buildings.
Kisolo ...	,, ...	2,485	19,063	1922	,, ,,
Aduku ...	Lango ...	8,481	22,180	1922	Permanent buildings. Ward for 20 beds.
Kaberamaido ...	,, ...	12,684	42,215	1931	,, ,, ,, ,,
Aboki ...	,, ...	10,569	36,070	1931	Temporary buildings.
Dwoli ...	Bunyoro ...	2,124	12,534	1925	Semi-permanent buildings.
Kiziranfumbi ...	,, ...	3,540	20,217	1925	,, ,, ,,
Kisaru ...	,, ...	1,738	10,219	1931	,, ,, ,,
Masindi Port ...	,, ...	1,586	9,268	1925	Permanent buildings.
Kiriandongo ...	,, ...	2,235	22,095	1926	,, ,,
Kinyala ...	,, ...	1,966	17,995	1925	Permanent buildings of private estate.
Bujenge ...	,, ...	3,155	28,912	1932	Temporary buildings.
Kejonjubwa ...	,, ...	606	3,248	1933	,, ,,
Pader ...	Chua ...	7,443	19,119	1932	Semi-permanent buildings.
Paranga ...	,, ...	...	...	1934	Temporary buildings. Opened end of 1934.
Minakulu ...	Gulu ...	7,159	20,218	1930	Permanent buildings.
Attiak ...	,, ...	9,783	18,371	1931	,, ,,
Awach ...	,, ...	6,787	16,989	1932	,, ,,
Abbia Ferry ...	,, ...	3,515	3,104	1934	Temporary buildings.
Ajumàni ...	Madi ...	21,645	7,970	1927	Semi-permanent buildings.
Zaipi ...	,, ...	4,761	3,400	1931	Temporary buildings.
Ubongi ...	,, ...	5,355	3,499	1933	,, ,,
Laropi ...	,, ...	4,252	3,982	1931	,, ,,
Terego ...	West Nile ...	4,902	33,130	1925	Permanent buildings.
Pakwach ...	,, ...	5,372	13,107	1930	Temporary buildings.
Pai-Ida ...	,, ...	4,387	13,223	1930	,, ,,
Okollo ...	,, ...	5,331	16,185	1934	,, ,,
Warr ...	,, ...	7,835	2,749	1934	,, ,,
Nebbi ...	,, ...	...	...	1931	Temporary buildings closed 1934.
Aringa ...	,, ...	5,298	17,776	1928	Temporary buildings.
Udupe ...	,, ...	2,594	8,602	1932	,, ,,
Ladonga ...	,, ...	3,161	5,745	1932	,, ,,
Rumogi ...	,, ...	2,337	3,744	1932	,, ,,

88 centres

REPORT ON THE UGANDA MEDICAL SCHOOL, MULAGO, FOR THE YEAR 1934.

272. The Uganda Medical School was instituted in 1923, with the object of building up a cadre of African Medical Assistants trained on the lines of the medical student in England. The course is curtailed and adapted in accordance with the length of the curriculum, the standards of education of students and the requirements of the Medical Department by which Medical Assistants are employed.

273. Students are carefully selected from the better scholars at Makerere College. The preliminary sciences are taught at Makerere College over a period of two years. In the third year students attend Mulago Medical School for instruction in anatomy and physiology but continue to reside at Makerere College. During the fourth and fifth year students reside in the Medical School Hostel situated at Mulago. In the fourth year pathology and bacteriology with allied subjects and therapeutics and pharmacy are studied for the Final Examination Part I, which is taken at the end of the fourth year. Concomitantly with these subjects systematic teaching in medicine and surgery is given and students are introduced to clinical work in the wards and out-patient department. In the fifth year midwifery and gynæcology, diseases of children and forensic medicine are added while the study of medicine and surgery, systematic and clinical, mainly the latter, is continued in preparation for the Final Examination Part II, which is taken at the end of the fifth year.

274. At the end of 1934 twenty-four students had qualified, eighteen have been appointed to the African Civil Service, four await admission and two have returned to Zanzibar where they are employed in the Medical Department of the Protectorate.

275. During the year five students who had completed their studies of the preliminary sciences were accepted for entry to the medical curriculum beginning in 1935.

276. At the final examination of 1933, one student failed in the *viva voce* portion of surgery, four in pathology, bacteriology and parasitology, one in medicine and surgery, and one in practical pharmacy. The first of these was re-examined in March, 1934, and was passed. The remainder were re-examined in June, 1934, by Dr. H. C. Trowell of the Kenya Medical Service, and all succeeded in satisfying him.

277. At the examinations held at the end of 1934, seven students in their third year were examined in anatomy and physiology. Six passed, two with distinction. One failed and being regarded as unsuitable was recommended to discontinue the course. Six students in their fourth year were presented in the Final Examination Part I. Three passed, two with distinction, and three failed in pathology. Seven students were presented for the Final Examination Part II. Six passed, two with first class and one with second class honours. One failed and will be re-examined in June, 1935.

278. Three extern examiners in collaboration with the lecturers conducted the examinations. Dr. L. J. A. Loewenthal, M.D., M.R.C.P., examined in physiology, pathology, materia medica and medicine; Dr. Forrest, M.A., M.B.Ch.B., in anatomy, surgery and midwifery; Mr. H. M. W. Nicholson in pharmacy.

279. Successful candidates in the final examination are licensed by the Director of Medical Services to practice under the Medical Registration Ordinance, and they are also admitted as members of the African Civil Service. One year of residence at Mulago Hospital after qualification is compulsory. During this period licensees pass through the special departments of the hospital acting as house surgeons and physicians in the medical, surgical, female and venereal wards and clinics. Opportunities are also afforded for attendance at the special clinics for diseases of the eyes, nose, throat and ear.

280. The examiners, Drs. S. Forrest and L. J. A. Loewenthal of the Medical Department, reporting on the results of the examination stated that the standard attained by students was on the whole high, and that, while the written answers were handicapped by a somewhat defective knowledge of English spelling and syntax, they were generally well set out and classified. The results in the practical and clinical examinations were often at variance with those obtained in the written examinations by the individual candidates. The case-taking in surgery was disappointing in character, but in medicine a good grasp of essentials was evident; case histories were well taken and bedside examinations were conducted on sound lines. Candidates were, however, reluctant to commit themselves to a diagnosis. This was probably due partly to nervousness and partly to the inherent dislike of the educated African to be detected in a mistake.

281. Arrangements have now been made to provide additional tuition in clinical surgery, while a complete re-organisation of the curriculum is under consideration.

SECTION VII.—REPORT ON PRISONS AND ASYLUMS FOR 1934.

282. *Health.*—The morbidity rate for all prisons was 57, and the details for each prison are shown in the following table:—

	Accommodation available.	Daily average in prison.	Daily average on sick list.	Deaths.	Morbidity rate per 1,000.	Death rate per 1,000.
Central Prison	937	934	19	9	20	9
Entebbe	143	91	1	1	11	11
Masaka	65	32	11	...	...	...
Mubende	26	16	1	...	...	...
Jinja	78	81	4	4	48	48
Mbale	100	86	12	3	120	35
Tororo	16	13	0·3	...	...	...
Soroti	140	89	3	...	33	...
Moroto	41	31	1	1	...	...
Masindi	34	32	2	...	...	...
Lira	120	83	9	4	108	48
Arua	63	86	12	6	139	70
Gulu	78	119	18	1	151	8
Kitgum	153	67	7	1	...	...
Fort Portal	30	23	2	...	...	...
Mbarara	37	22	2	...	...	...
Kabale	55	52	2	2	...	...
TOTAL	...	1,857	...	32	57	17·2

283. In addition, a few prisoners were confined in the Native Government prison at Moyo.

284. Only the rates for the larger prisons are given as in the smaller gaols the apparently high rates would convey an erroneous impression of the health conditions. It is noteworthy that at Arua and Gulu, which were always overcrowded, the morbidity rate was high. At Masaka, while a daily average of eleven sick out of thirty-two prisoners was recorded, the Medical Officer reported that the health of the prisoners was good, and the causes of sickness were minor ailments and injuries.

285. The common complaints were diseases of the respiratory tract, minor injuries, malaria and ulcers. There was an epidemic of influenza which caused three deaths at Arua, while cases of relapsing fever occurred as usual in the Mbarara prison. There were no cases attributable to diet insufficiency.

286. *Deaths.*—Thirty-two deaths took place among convicts, with a death rate per thousand of 17·23. This compares with that of recent years as follows:—

1928 ...	70·5	1930 ...	26·5	1932 ...	15·75
1929 ...	40·9	1931 ...	17·7	1933 ...	18·60

287. The causes of death were:—

Lobar pneumonia	9	Jaundice	1
Pulmonary tuberculosis	5	Dysentery	1
Influenza	3	Strangulated hernia	1
Coronary thrombosis	2	Bullet wound	1
Sleeping sickness	2	Malaria	1
Transverse myelitis	1	Ulceration of sigmoid colon	1
Acute atrophy of liver following operation	1	Chronic nephritis	1
Enteric fever	1	Chicken-pox	1

288. The authorised ration scale at the Central Prison remained unaltered, and consisted of:—

	Ounces per diem.		Ounces per diem.
Maize	20	Fresh vegetables or sweet potatoes ...	6
Beans	5	Meat	4
Groundnuts	3	,, (If dry)	2
Salt	½		

289. At the other prisons, this diet was conformed to except in certain places where the staple diet of the inhabitants differs from the Protectorate scale. At Mubende, sweet potatoes or matoke were issued instead of maize flour; at Moroto, the ration was maize 20 oz., simsim or bean 2 oz., salt ½oz., per day, and meat 2 lbs. per week; at Arua and Kitgum, wimbi flour or sweet potatoes is issued instead of maize; while at Fort Portal the ration consisted of sweet potatoes 64 ounces, beans 8 oz., groundnuts 4 oz., with the addition of fresh vegetables such as spinach, tomatoes, etc.

290. Ten Europeans and thirty-eight Asians were confined in prison at various times during the year.

291. At most prisons, overcrowding occurred at certain times, while at Jinja, Arua and Gulu there was a number of prisoners in excess of the accommodation throughout the year, the standard of which is 28 square feet per person in all gaols, except the Central Prison where it is 40 square feet.

292. The general conditions in each prison are set out below.

Buganda Province.

293. *Luzira Central Prison.*—During the year a permanent kitchen was completed; latrines for night use were built to accommodation wards; taps for drinking water were installed in workshops; shower baths were placed in the European, Indian and condemned sections; and in the juvenile section two dilapidated dormitories were replaced by one good temporary sleeping room.

294. *Entebbe, Masaka and Mubende.*—A deep pit latrine was completed at Mubende, while a new kitchen and latrines for night use will be installed at Entebbe during 1935.

Eastern Province.

295. *Jinja.*—There was overcrowding during a considerable portion of the year. The drainage system was improved, but the prison building cannot be considered satisfactory. New lines for the warders are badly required.

296. *Mbale and Soroti.*—The gaol and lines for warders and police are too near the European quarters, and should be removed some distance away. New bucket latrines were installed at Soroti.

297. *Tororo and Moroto.*—There was no change in the accommodation during the year.

Northern Province.

298. *Masindi.*—Until recently, it had been expected that on the evacuation of the present Mental Hospital, that building would be used as the central prison for Bunyoro. It has now been decided that the Mental Hospital is unsuitable for use as a gaol and it is to be demolished.

299. *Kitgum, Lira, Arua and Gulu.*—All the buildings are temporary, and there was no change during the year. Arua and Gulu were overcrowded.

Western Province.

300. *Mbarara.*—This is a very old building, and its replacement by a modern structure is overdue.

301. *Kabale and Fort Portal.*—Both gaols are of a temporary nature, and should be replaced by permanent buildings.

Native Administration Prisons.

302. The temporary buildings in which Native Administration prisoners were lodged in the past are now gradually being replaced by permanent gaols of a modern type. This process is nearing completion in the Eastern Province, where, except in Bugishu, nearly all the gaols at saza headquarters are permanent. It has, however, been found that these buildings tend to become bug-infested, and the eradication of this parasite is a matter of considerable difficulty.

303. In many gaols there is overcrowding, and the diet is not up to the standard of that of Protectorate prisons.

304. The gaols were inspected regularly by Medical Officers and as far as possible medical supervision of the prisoners was exercised. On the whole the health of convicts appeared to be reasonably good, though the Medical Officer, Masaka, reported that the temporary prisons in that district are an actual or potential danger owing to ticks. Attention is directed to this in the section devoted to relapsing fever.

Mental Hospital, Hoima.

305. Apart from ordinary maintenance, no work was carried out at the Hoima Mental Hospital. The new building at Kampala, near Mulago, was commenced during the year and will be ready for opening in 1935. The present hospital will then be closed.

TABLE I.—ADMISSIONS, DEATHS, ETC., DURING THE YEAR.

	Male.	Female.	Total.
Inmates remaining 31st December, 1933	45	17	62
Number admitted during the year	22	7	29
Number released	6	1	7
Number escaped	—	—	—
Number transferred	1	—	1
Number who died	17	5	22
Number remaining 31st December, 1934	43	18	61

CAUSES OF DEATH.

Asthenia	13	5	18
Broncho-pneumonia	1	—	1
Enteritis	1	—	1
Status epilepticus	1	—	1
Syncope	1	—	1

Table II.—MENTAL HOSPITAL.

Table Showing the Movements of the Mental Hospital Population for each Year for the Years 1922—1934 together with Recovery and Death Rates.

Year.	First Admissions.			Re-Admissions.			Total Admissions.			Total Number under Treatment.			Number Discharged.			Number Died.			Number Remaining at end of Year.			Average Daily number on Register.			Percentage of Discharges on Total Admissions.			Percentage of Deaths on Average Daily Number on Register.		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1922 ...	11	3	14	1	...	1	12	3	15	36	6	42	7	1	8	9	...	9	20	5	25	20	3	23	58·3	33·3	53·3	45·0	...	21·4
1923 ...	31	6	37	...	...	...	31	6	37	51	11	62	12	3	15	10	2	12	29	6	35	26	6	32	38·7	50·0	40·5	38·4	33·3	37·5
1924 ...	20	8	28	...	...	...	20	8	28	49	14	63	8	...	8	12	3	15	29	11	40	29	9	38	40·0	...	28·5	41·3	33·3	39·4
1925 ...	26	4	30	...	...	...	26	4	30	55	15	70	3	...	3	9	3	12	43	12	55	32	11	43	11·5	...	10·0	28·1	27·2	27·9
1926 ...	29	13	42	1	...	1	30	13	43	73	25	98	5	1	6	16	4	20	52	20	72	48	16	64	16·6	7·6	13·9	33·3	25·0	31·2
1927 ...	15	5	20	2	...	2	17	5	22	69	25	94	15	7	22	17	4	21	37	14	51	38	18	56	88·2	140·0	100·0	44·7	22·2	37·5
1928 ...	21	5	26	3	1	4	24	6	30	61	20	81	2	...	2	18	1	19	41	19	60	37	16	53	8·3	...	6·6	48·6	6·2	35·8
1929 ...	22	7	29	1	...	1	23	7	30	64	26	90	10	4	14	14	1	15	40	21	61	37	20	57	43·4	57·1	46·6	37·8	5·0	26·3
1930 ...	14	3	17	1	...	1	15	3	18	55	24	79	6	4	10	9	2	11	40	18	58	37	19	56	40·0	133·3	55·5	24·3	10·5	19·6
1931 ...	16	6	22	1	1	2	17	7	24	57	25	82	5	3	8	6	4	10	46	18	64	42	17	59	29·3	42·8	33·3	14·3	23·5	16·9
1932 ...	18	2	20	1	...	1	19	2	21	65	20	85	5	...	5	14	2	16	46	18	64	47	18	65	26·3	...	22·9	29·8	11·1	25·0
1933 ...	14	2	16	...	...	...	14	2	16	60	20	80	5	...	5	10	3	13	45	17	62	45	17	62	35·7	...	31·2	27·4	17·6	20·9
1934 ...	20	7	27	2	...	2	22	7	29	67	24	91	7	1	8	17	5	22	43	18	61	44	17	61	31·8	14·2	27·6	38·6	29·4	36·0
Totals ...	257	71	328	13	2	15	270	73	343	762	255	1017	90	24	114	161	34	195	...	...	...	...	...	...	...	...	...	...	...	...

SECTION VIII.

306. *Meteorology.*—All available information is printed in the Blue Book.

SECTION IX.—SCIENTIFIC.

307. Scientific papers published during the year 1934 by members of the Medical Staff:—

Dr. R. E. Barrett.—
"Notes on the Epidemiology of Sleeping Sickness with special reference to conditions in the West Nile"—*East African Medical Journal*, Vol. XI., 1934, p. 20.

Dr. R. S. F. Hennessey.—
"Typhus Fever in Uganda"—*East African Medical Journal*, Vol. XI., 1934, p. 42.

Dr. A. W. Williams.—
"Some unusual forms of Plague"—*East African Medical Journal*, Vol. XI., 1934, p. 229.

Mr. E. G. Gibbins, Professor W. S. Patton and
"Studies of the Higher Diptera of Medical and Veterinary Importance.

A Revision of the Genera of the Tribe Muscini, Subfamily Muscinae, based on a comparative study of the Male Terminalia.

III.—The Metallic Muscini"—*Annals of Tropical Medicine and Parasitology*, Vol. XXVIII., 1934, p. 571.

Mr. E. G. Gibbins.—
"Morphological Study of Malaria Pigment in Oocysts of Naturally Infected Anopheles"—*Parasitology*, Vol. XXV., 1933, p. 428.

"Further Studies on Ethiopian Simuliidae"—*Transactions of the Royal Entomological Society of London*, Vol. LXXXII., 1934, p. 51.

Omw. D. Bamundaga, (Senior African Medical Assistant).—
"An unusual case of Dracontiasis"—*East African Medical Journal*, Vol. XI., 1934, p. 292.

ANNUAL REPORT OF THE LABORATORY SECTION FOR THE YEAR 1934.

PART I.

308. *General Review.*—This Report covers the year ending 31st December, 1934. There has been no change either in the policy or the work of the laboratory during the year.

309. *Staff.*—The Senior Bacteriologist returned from leave in January. Dr. N. J. Willans, Assistant Bacteriologist, went on leave in May and returned in December. Dr. R. S. F. Hennessey, Assistant Bacteriologist, Mr. E. C. Haddon, Analytical Chemist, and Mr. J. Stewart, Laboratory Assistant, were on duty throughout the year. Mr. E. G. Gibbins, Laboratory Assistant, was on leave till August, and in November and December he accompanied the British Museum Expedition as Assistant Entomologist, to the Mufumbiro and Ruwenzori Mountains.

310. In March, a new appointment to the Non-European Staff was made in the person of Mr. C. K. Stokes, who had been trained in the Medical Research Laboratory, Nairobi, as a Laboratory Assistant. His main duty is to undertake the training of the African Laboratory Assistant Learners. By this appointment it is hoped that the training of the latter may be put on a sounder basis.

PART II.

311. The number of examinations made in the laboratory during the year was 40,611.

312. *A. Blood Examinations and Cell Counts:*—

	Europeans.	Asians.	Natives.	Total.
For parasites	820	226	13,111	14,157
Differential leucocyte counts ...	34	33	85	152
Total cell counts	7	2	48	57
White cell counts	—	—	57	57
Red cell counts	—	—	38	38
C. S. F. counts	1	3	63	67
Blood cultures	12	1	4	17
Blood grouping	—	5	1	6
				14,551

313. The following table gives the number of parasites found in direct blood smears:—

	Europeans.	Asians.	Natives.
P. falciparum	40	50	2,587
P. Malariae	19	5	643
P. vivax	—	—	12
P. falciparum and *P. malariae*	—	—	22
P. falciparum and *P. vivax*	—	—	3
Malaria parasites, unidentified	1	—	100
T. recurrentis	—	1	60
Microfilaria loa loa	—	—	8
Microfilaria bancrofti	—	—	2
Microfilaria perstans	1	—	893
Trypanosomes	—	—	2
	61	56	4,332

314. Of the 2,587 smears positive for *P. falciparum*, 304 showed crescents. In the 643 positive for *P. malariae* 165 contained gametocytes, and of the 12 positive for *P. vivax* four showed gametocytes.

315. *B. Faeces Examinations:*—

	Europeans.	Asians.	Natives.	Total.
Microscopical for ova	778	27	2,991	3,796
Microscopical for protozoa	762	23	283	1,068
For occult blood	38	—	19	57
Cultures	3	—	62	65
				4,986

316. Of the 778 examinations of fæces for ova in Europeans two contained *Ancylostoma*, two *Trichiuris* and one *Taenia*, and of the 762 examined for protozoa fifteen contained cysts and four non-encysted forms of *E. histolytica;* cysts of *E. coli* were present in fifteen. Of 2,991 examinations for ova in Africans 1,626 contained *Ancylostoma*, 235 *Trichiuris*, 64 *Taenia*, 31 *Ascaris*, eleven *Schistosoma mansoni* and four *Strongyloides*. 283 examinations for protozoa showed 58 with cysts of *E. coli*, and seven with non-encysted forms and five with cysts of *E. histolytica*.

317. *C. Urine Examinations:*—

	Europeans.	Asians.	Natives.	Total.
General and miscroscopical	481	73	2,300	2,854
Quantitative for albumin	36	4	1	41
Quantitative for sugar	—	14	3	17
For bile pigments	1	10	21	32
For acetone	—	—	5	5
For culture	4	—	1	5
For tubercle bacilli	1	4	10	15
				2,969

318. *D. Serological Examinations:*—

	Europeans.	Asians.	Natives	Total.
Wassermann tests	24	20	895	939
Kahn tests	61	60	13,182	13,303
Agglutination tests	5	15	259	279
Van den Bergh reaction	1	—	11	12
				14,533

319. *E. Pus and Exudates:*—

	Europeans.	Asians.	Natives.	Total.
For gonococci	81	7	722	810
For *P. pestis*	—	1	236	237
For *B. leprae*	—	—	43	43
For Koch-weeks bacillus	1	—	27	28
For other organisms	14	2	337	353
For cultures	7	4	28	39
For vaccines	9	2	2	13
				1,523

320. Of 236 examinations for *P. pestis* thirteen were positive. *B. typhosus* was isolated from the cerebro-spinal fluid of an African.

321. *F. Dark-Ground Examinations:*—

Europeans.	Asians.	Natives.	Total.
1	—	418	419

322. *G. Sputum:*—

Europeans.	Asians.	Natives.	Total
26	24	1,028	1,078

323. Of the 1,028 sputa from Africans examined 133 showed *B. tuberculosis* and six showed *P. pestis*.

324. *H. Histological Examinations:*—

Europeans.	Asians.	Natives.	Total.
18	4	206	228

325. Sections from 246 cases (eighteen from experimental animals), surgical and post-mortem, were made during 1934. Of these 76 were tumours.

Fibroma	Breast	1	
	Foot	1	
	?	1	
	Ovary	2	
	Iliac crest	1	
	Cervix	1	
	Inguinal canal	1	8
Myeloid epulis	Jaw		1
Lipoma	Scrotum		1
Myxoma	Breast		1
Fibromyoma	Uterus		3
Mixed cell sarcoma	Glands	1	
	Jaw	1	2
Spindle cell sarcoma	? Ulcer	1	
	Foot	1	
	Skin	1	
	Spleen	1	4
Round cell sarcoma	Ovary	1	
	Neck	2	3
Osteosarcoma			3

Lymphosarcoma	Retroperitoneal ...	...	1		
Angiosarcoma	Nose ...	...	1		
Papilloma	Prepuce ...	...	1		
	Mouth ...	...	1	...	2
Adenoma	Rectum ...	...	1		
	Prostate ...	...	1	...	2
Fibro-adenoma	Breast ...	...		...	3
Papillary cyst adenoma ...	Breast ...	...	1		
	Ovary ...	...	1	...	2
Squamous cell carcinoma ...	Vulva ...	...	1		
	Penis ...	...	8		
	Forearm ...	...	1		
	Scrotum ...	...	1		
	Skin ...	...	1		
	? ...	...	3		
	Lip ...	...	1		
	Conjunctiva ...	...	1	...	17
Spheroidal cell carcinoma ...	Breast ...	...	2		
	Ovary ...	...	1		
	Liver ...	...	1	...	4
Columnar cell carcinoma ...	Breast ...	...	1		
	Liver ...	...	1		
	Pancreas ...	...	1		
	Parotid ...	...	1		
	Prostate ...	...	1		
	Rectum ...	...	2	...	7
Haemangioma	Hand ...	...	1		
	? ...	...	1		
	Liver ...	...	1		
	Scalp ...	...	1	...	4
Parotid tumour	Parotid ...	...	1		
	Submaxillary	...	1	...	2
Endothelioma	Periosteum ...	...	1		
	Scalp ...	...	1	...	2
Malignant haemendothelioma ...	Skin ...	...		...	1
Multiple angiosarcoma ...	Skin ...	...		...	1
Taratoma	Ovary (dermoid cyst) ...			...	1

326. *I. Stock Vaccines:—*

Gonococcal	1,150 c.cs.
T.A.B.	2,570 ,,
Staphylococcal	100 ,,

327. *J. Post-mortem Examinations:—*

Europeans.	Asiatics.	Natives.	Total.
— ...	1 ...	161 ...	162

328. 162 post-mortem examinations (161 natives and one Asiatic) were performed during the year. Among these, the following cases were of unusual interest.

329. On 22nd March, 1934, a post-mortem examination was carried out on the body of a male aged about 25, who had been thrown from a motor lorry during the turning of a corner. Although there were no external injuries apart from slight bruising of the thorax, the left ventricle had been perforated by the ends of two broken ribs.

330. On 26th March, 1934, the body of a healthy looking male aged about 25 was examined. The deceased had complained of headache and dizziness for three days before admission to hospital (on 16th March, 1934) and red cells were present in large numbers in specimens of cerebro-spinal fluid removed during his hospital life. No organisms or signs of infective inflamation were detected in the fluid, and there was no history of injury. On post-mortem examination, the heart and great vessels appeared healthy. The brain was floating in deeply blood-stained cerebro-spinal fluid, and large sub-arachnoid haemorrhages were present on all aspects of both cerebral hemispheres and the cerebellum, together with numerous petechiae. Sections showed some endothelial degeneration in cerebral arterioles and capillaries, but haemorrhage had only occurred from the most superficial vessels. The impression gained was that of a localised purpuric condition.

331. On 17th May, 1934, the body of a male aged 40 was examined. The deceased was a native chief who had complained of anorexia with slight fever for about a week. He had also been jaundiced for four days when admitted to hospital on 15th May, 1934. His temperature was normal on admission. Haematemesis occurred, and he became comatose on 16th May, 1934. There was bleeding from the gums on 17th May, 1934, and the temperature rose to 104°F. before death. The post-mortem examination revealed pneumonic plague, with septicaemia and numerous visceral haemorrhages.

332. On 21st July, 1934, a post-mortem examination was performed on the body of a male aged about 50, who had been the subject of diabetes mellitus. The pancreas was represented by a dense fibrous sac containing numerous calculi composed of calcium carbonate, together with some amorphous organic matter. The bile ducts and gall bladder showed no abnormality.

SUMMARY OF POST-MORTEM EXAMINATIONS.

333. *Infections.*—

Plague, bubonic	3
,, pneumonic	6
,, septicaemic	1
Pneumococcal pneumonia ...	24
,, peritonitis ...	5
,, meningitis ...	1
,, pericarditis ...	1
,, endocarditis ...	1
Aspiration pneumonia ...	1
Tuberculosis, pulmonary ...	5
,, miliary ...	2
,, renal ...	2
,, cerebral ...	2
Syphilis, cerebral vessels ...	5
,, aorta	9
Enteric fever	4
Pyaemia	3
Gonococcal stricture, abscesses and septicaemia	3
Hydronephrosis and uraemia ...	4
Cerebral abscess	1
B. friedlanderi meningitis ...	1
B. coli abscess, perisplenic ...	1
Streptococcal endometritis and endocarditis	1
Cholangitis, suppurative ...	3
Pericarditis, chronic ...	2
Endocarditis, rheumatic ...	1
Trypanosomiasis	1
Malaria, cerebral	2
Malaria	1
Amoebic dysentery	3

Toxic and Degenerative conditions.—

Nephritis, acute	2
,, sub-acute	6
,, chronic	4
Hepatic cirrhosis	2
Chloroform hepatitis	4
Diabetes	2
Aplastic anaemia	1
Arsenical poisoning	1
Purpura, idiopathic	2
? Status lymphaticus	1
Perforated duodenal ulcer ...	1
Dementia and inanition ...	1

Tumours.—

Peritoneal endothelioma ...	1
,, lymphosarcoma ...	1
Peri-oesophageal sarcoma ...	1
Splenic sarcoma	1
Pancreatic carcinoma ...	1

Mechanical Injuries.—

Shock, post-concussion ...	2
,, operative	1
Wounds, head, with meningitis	1
Wounds, head, with cerebral haemorrhage	1
Wounds, thoracic	2
Wounds, abdominal	3
Strangulation, suicidal ...	1
Dislocation of neck	1
Fracture of skull	6
Ruptured spleen	4
Ruptured kidney	2
Intussusception	1
Strangulated hernia	1
Ruptured uterus	1

(The cause of death was obscured by decomposition in two cases).

334. *K. Rat Examinations.*—

Cultures for *P. pestis* 103

Of the 103 cultures, *P. pestis* was isolated on nine occasions.

335. *L. Miscellaneous* 59

CHEMICAL SECTION.

336. The chemical staff consists of one Chemist and one Native Laboratory Assistant.

337. During the year the following specimens, exhibits, etc., were received for chemical examination:—

Medical Department.—

Bloods	147	
Urines	7	
Milk, human	1	
Gastric contents	16	
Cerebro-spinal fluid ...	1	
Fæces	3	
Concretions	1	
Drugs	12	
Foods	7	
Waters	4	
Aerated sweet water ...	1	
Toxicological	2	
Precipitin Serum ...	1	
Preparations	5	
	208	208

Police Department.—

Blood stains	53	
Toxicological	71	
Drugs	16	
Soaps	3	
	143	143

Municipal Department.—

Waters	2	
Milks	8	
	10	10

Kenya and Uganda Railways.—

Waters	7	
Pipe line deposit ...	1	
	8	8

Veterinary Department.—

Cattle dip	1	1
		370

338. Masindi and Tororo townships were visited and the water supplies examined for the railway authorities.

ANNUAL REPORT OF THE GOVERNMENT DENTAL SURGEON FOR 1934.

339. The following tables give the treatment of European and Asiatic officials:—

(1)	Appointments	2,045
(2)	The following conditions were treated:—	
	Caries simplex	794
	Extractions	367
	Pyorrhoea	43
	Periodontitis	58
	Abscess	27
	Erosion	80
	Gingivitis	40
	Pulpitis	29
(3)	Conservation Work:—	
	Silver amalgams	552
	Synthetic porcelain	201
	Oxyphosphate	69
	Zinc oxide	86
	Permanent gutta-percha	16
	Carbolised resins	290
	Scalings	284
	Zinc chloride applications	128
	Gold inlays	14
(4)	Prosthetic Work:—	
	Dentures	61
	Repairs to dentures	96
	Pivots	12

(5) The following stations besides Entebbe and Kampala were visited:—

Jinja, three visits; Masaka, Mbarara, Kabale, Mbale, Soroti, Masindi, Arua, Gulu, Lira and Fort Portal, one visit each.

APPENDIX I.

MEMORANDUM ON DEPARTMENTAL POLICY.

Before going on leave, I think that I should endeavour to outline the policy which is now being pursued by the Medical Department.

The organisation of the professional medical staff of the Department consists of the central headquarters staff, certain Specialist Officers, Senior Medical Officers in Charge of Provinces and Medical Officers in Charge of Districts. It was hoped at one time that it would be possible to station two medical officers in each district, but, owing to the financial depression resulting in reduction of staff, this has been found impossible, and it is only in Jinja, Kampala and Arua, that a second officer has been made available. The sphere of the District Medical Officer, therefore, includes all the activities of the Medical Department in his district. Undoubtedly a choice exists as to whether his time should be devoted to curative medicine or to preventive medicine, but, when it is considered that curative medicine will only touch a very small part of the population if one excludes treatment for such diseases as yaws and venereal disease, while, on the other hand, preventive medicine including the treatment of contagious disease, raises the standard of health of the whole population, there can be no question that the latter is the side of medical work to which the medical officer must devote the major part of his attention. Curative medicine, however, cannot be neglected because, if the people are to accept advice on preventive medicine, it is essential to gain their confidence and in furtherance of this aim the treatment of their more obvious ills is of great importance, as is the constant presence of the medical officer in their midst. They must be encouraged to feel that at the dispensaries and hospitals they are getting the best possible treatment from a staff of friends. But curative treatment must only be used as a step towards the much broader policy which concerns itself with the improvement of the hygienic conditions under which the population live.

The first step the medical officer is required to do in taking over a district is to make a survey of it in relation to its health needs. He must visit the people in their homes, noting the type of house in which they live, and the general conditions of their environment, especially those which encourage the spread of disease. From the observations so made he should formulate a policy consistent with that of his predecessor and, where necessary, extending it. It would be unwise, and would lead to loss of confidence, by the African population were the policy of the district changed with the advent of each new medical officer. In the nature of things, it is impossible that the same man can be stationed in the same district year after year and it is for this reason that a new officer appointed to medical charge of a district must make himself acquainted with his predecessor's policy and see that it is continued, and that he should not be in too great a hurry to start a new venture without first ascertaining that it will not conflict with work already in existence. For this reason it has been decided that before any new policy is put into action or recommended to officers of other Departments, official sanction must be obtained from headquarters. Similarly no policy which is already in existence must be allowed to drop into abeyance without such sanction. New lines of policy which may suggest themselves require the most careful consideration. Every step must be taken to determine their practicability before they are put into action, and in this connection the medical officer must make a study of the local customs and beliefs of the people of his district and estimate both their mental and physical ability to carry out the programme he proposes to suggest. Furthermore, the repercussion of any new policy on the work of other Departments must not be left out of consideration and it is essential, before embarking upon any new procedure, that the medical officer should have secured the co-operation of the officers of any other department affected.

The health policy of a district is, indeed, not only the concern of the District Medical Officer but of officers of other departments. First and foremost of these is the Administrative Officer, for, as he is the head of the local Government, so he is responsible for the maintenance of the health of his district just as much as he is for developing its production and increasing its wealth. It is, therefore, essential that the medical officer should seek the co-operation of the Administrative Officer in all his schemes and he must be prepared to explain all their detail in such a way as to enlist the interest and enthusiasm of the Administrative Officer and obtain his assistance in the work of propaganda. If the population find that the Administrative officer whom they look upon as the main representative of Government is preaching the same policy and the same improvements in rural sanitation as the medical officer they are far more likely to adopt the new methods of living advocated. Health is also the concern of the Education Department because, lacking it, pupils at schools cannot be expected to reach full metal development; on the other hand, unless by education of the people superstition is eliminated, and the mental capacity of the native raised, no propaganda devised to raise the general standard of hygiene can ever be successful. Health is also dependent on the prosperity

of the district, for without wealth the population will not be able to carry out many of the improvements in rural sanitation which are recommended by the medical officer. The co-operation therefore, of these departments whose primary aim is the increase of production, such as the Agricultural and Veterinary Departments, must be secured. It can be pointed out that a healthy population can produce more than an unhealthy one. The Forest Department again plays an essential part in the campaign against malaria, and has already done excellent work in the afforesation of swamps. In short, the local representatives of these Departments should form in effect a board whose main object is to devise a general bonification scheme for the district, in which each department plays an essential part.

In formulating a policy, many aspects of the health problems of the district must be taken into consideration. It is probably true to say that the greater part of the adult population in Uganda suffers from disease of some kind or other and in the majority of cases this has affected its general health to such an extent that curative measures are now largely only palliative. It is, therefore, the coming generation with whom we are most concerned and it should be the object of every District Medical Officer so to improve the environmental conditions of the newly-born infant that his chances of becoming infected with parasites are comparatively small. It must also be his object to see that the infant is born free from hereditary diseases, and therefore he must extend to the expectant mother the benefits of ante-natal care. To further protect the child, he must see that the mother understands how the child should be brought up and give her advice as to feeding and as to the treatment of the minor ailments of infancy. In other words, he should see that by the provision of child welfare clinics the child is kept under medical observation during its early years. But the medical supervision of the child should not be limited to the period prior to entering school. It is essential that even during school life a watch should be kept over the health of the growing child. The provision of suitable school buildings conforming to modern hygienic ideals is essential and it is the duty of the District Medical Officer to see that the educational buildings in his district conform to the ideal and, where the laws of hygiene are transgressed, he should draw the attention of the education authority to the deficiencies. He should be particularly careful to see that the rules of hygiene taught in the school are carried out in practice in the management of the school.

It is probable, with the Africans' interest in their children, that ante-natal and child welfare clinics and school medical inspections will be popular and, provided that the right attitude is taken in their conduct, that the attendance may even outstrip the capacity of the Medical Officer to cope with it. It is in his efforts to effect the improvement of the environmental conditions of the child that the Medical Officer will find his greatest difficulties. He may not get direct obstruction, but he will be faced with the apathy which is the result of custom. He must, therefore, in close co-operation with the Administration and the Education Department, take steps to remove this apathy by constant propaganda and it is in carrying out this duty that he will find a knowledge of tribal custom and belief invaluable. He must preach the laws of health in and out of season, particularly in regard to cleanliness of house, compound and person, in regard to conservancy and the disposal of rubbish, detailing the dire effects of ancylostomiasis and schistosomiasis on individuals; in regard to housing, urging the provision of proper light and ventilation so that dirt can be seen and removed; and in regard to the care and protection of food and food supplies, showing the relationship of this to plague, to helminths and to bacterial diseases such as anthrax and Gærtner infections. Again, it is not sufficient only to preach these new ideas. It is the District Medical Officer's duty to see that as far as possible Government buildings, particularly those of which he is in direct charge such as sub-dispensaries and district hospitals, as well as schools and gaols, should be examples to the population of the principles he preaches. For this reason the dispensary buildings must be spotlessly clean as must the houses of his African staff. It is recognised that many of the quarters which have been erected for attendants in the past are not such as would be approved now, but it is hoped that these will be improved or replaced within a reasonably short period. At sub-dispensaries the accommodation provided for dressers gives an excellent opportunity for giving an object lesson in housing, and wherever it is possible the quarters for the dressers should be single houses, preferably with two or three rooms, with adequate window space and ventilation, situated each in its own compound and maintained spotlessly clean. Each should have a proper latrine, a proper bathing place and a proper rubbish pit where rubbish is always burnt. It should be one of the primary duties of the District Medical Officer when visiting sub-dispensaries, to inspect all the buildings and see that they are kept in a cleanly condition. The opportunity should be taken of this visit to the sub-dispensary to demonstrate the improved housing and improved latrine accommodation to the Chiefs and any influential people who attend. Other possible measures for the improvement of environmental conditions amongst the rural African population will often be recognised by the Medical Officer during his tour round his district and he should try to have them included in his policy. He should point out to the Chiefs the responsibility which they have in encouraging their people to be more sanitary. He should also point out the importance of the duties of the Chiefs in regard to the protection of water supplies from contamination, to the maintenance of clearings which have been laid down for the control of tse-tse fly and to the prohibition of the use of fly-infested bush by his people and the consequent necessity for afforesation in safe areas to give a supply of building poles and firewood. He should urge the Chiefs to see that proper latrine accommodation is provided conveniently adjacent to each house. In this connection, it is very important that the District Medical Officer should make himself acquainted with native custom and any taboos which are existent against the provision of proper latrines. Should such exist, it is his duty to secure the assistance of the Education Department and the Administration to try and eradicate this taboo by suitable educational methods.

From the statement given above of departmental policy, it will be realised that a great deal more of the Medical Officer's time must be spent not only at sub-dispensaries but in the village dwellings around them than has been customary in the past. It is impossible to do this properly by paying flying visits for a few hours a day. It is often the evening hours when instruction can most readily be given to the people. It is, therefore, essential that when District Medical Officers visit sub-dispensaries they should do so with the intention of spending two to three days at each, paying visits to the neighbouring chiefs and villages, and as far as possible holding barazas at various places at which the principles of hygiene can be expounded. The ideal at which we are aiming is the conversion of the sub-dispensary into the health centre of the sub-district. The dressers at such places should be specially picked, not only for their skill in nursing duties, but also for their ability to appreciate the reasons for various health measures and to expound their knowledge to visitors to the dispensary and to the neighbouring populace in their houses, the visiting of which should be a daily routine duty of the senior dressers. It is intended that as soon as possible skilled African staff will be stationed at each health centre to show the neighbouring villagers how to construct houses and latrines of an approved type. Adjacent to the dispensary should be the maternity centre with its ante-natal and child-welfare clinics, the staff of which should also visit the surrounding villages with the object of instructing the people in the care of the babies and children in their homes.

Faced with a policy with aims as wide as have been briefly and rather inadequately indicated above, a Medical Officer may well be pardoned if he says work on so extensive a scale is impossible with the present staff. It is indeed recognised that a Medical Officer working in what is a relatively large district can only touch effectively those areas, admittedly growing ones, immediately surrounding health centres. It is also, however, a fact that an European Medical Officer is too expensive an individual to Government to allow of one being posted to each sub-district; yet, if the whole district is to come under health supervision, the numbers of qualified practitioners must be largely increased. It is, therefore, to the Senior African Medical Assistant that we must look for extensions of health work in future, and for this reason his training must be given a more distinctly preventive bias than it has at present. The course at Mulago Medical School can only teach him the basic principles of medicine and the technique of diagnosis. It is his post-graduate work which will convert the student into the experienced practitioner. For this reason the posting of Senior African Medical Assistants away from the central hospital is to be deprecated because for the first few years after qualification he should be still under instruction by the Medical Officer to whom he is attached, and it is during this post-graduate period that a heavy responsibility lies on that Medical Officer to give that bias to the student's manner of thought which will encourage him to view questions from the preventive aspect. The Senior African Medical Assistant should be taught that when a patient comes to him for treatment, he should not consider that his work is done when he has cured him, but he must always think how best the patient can be prevented from becoming ill again. In other words, the outlook should be encouraged of "How best can I keep my people well" rather than "How best can I treat my people when they are sick." Tentatively and after careful consideration the Senior African Medical Assistant, when he has absorbed this idea, should be put in charge of a sub-district and made to realise that the sub-dispensary is only a small part of his responsibilities and, indeed, that it is really only the index to guide him as to what preventive measures are most necessary in his district. Our eventual aim is thus to achieve a Service in which each sub-district is actively controlled by a Senior African Medical Assistant, who, in his turn, is supervised by a District Medical Officer who will then probably be in charge of a much larger area than is the case at present.

Little has been said on research in this memorandum, not because it has no place in the Medical Department programme, but because in the limited sense of the word it is work confined to a specialist branch of the Service,, the officers serving therein having been specifically selected for the posts. In the widest sense of the word every medical officer is engaged in research, because every attempt to improve hygienic conditions and the health of the population is an experiment. Using the word in its narrower meaning, it is most important that the energies of the limited staff available should not be wasted upon problems of minor importance. It is essential therefore that district and laboratory staffs should work in the closet co-operation, and that there should be no hesitation on the part of the medical officers in the field in putting forward problems for investigation which have an important bearing on district medical policy. At the same time they must realise that investigational work takes time to produce results, and must not feel that the laboratory staff has failed in its duty when replies are not received by the next mail delivery, nor when they are notified that their request will be dealt with when investigations already in hand are completed. Chaos would result were half finished problems to be put on one side in order to commence new work. Recently conferences have been held to prevent overlapping in research, and it is now possible to make use of other laboratories in East Africa for certain investigations, thus allowing of a more economical use of staff.

One aspect of health work in districts which has not yet been touched on is related to the Asiatic population. It is no use preaching to the African the necessity for good sanitation if when they enter an Asiatic bazaar or an Asiatic settlement they see all the laws which they have been asked to observe flagrantly broken. District Medical Officers must, therefore, pay attention to the sanitary problems of bazaars and minor settlements. They must see that insanitary conditions are removed, if necessary by using the powers which have already been given them under the Township Rules. Legal requirements as regards building, provision

of latrines and general conservancy must be enforced. A great deal can be done without recourse to legal compulsion by adopting the same methods of education by propaganda as have been advocated amongst the native population, and in this connection it should be pointed out that if ever the Asiatic is going to be looked upon as the representative of a civilisation equivalent to that of the West, he must first see that his sanitary ideals do not fall short of those of the European.

It is probable that each Medical Officer will have some contribution to make to the solution of the general problems of rural sanitation in Africa. It may be only in detail or it may be on matters of primary importance. In order that ideas which are useful may be promulgated throughout the Protectorate, the District Medical Officer should submit to Medical headquarters on the first of each month an account of his activities in the district during the past month, showing where he has visited, what he has done at each place and any particular line of policy he has advocated. He will naturally include any new ideas which he is thinking of bringing into action and his later reports must show how these ideas have worked. Most Medical Officers are accustomed to keep a diary detailing their daily round, and it would be sufficient for the purpose of the monthly report if the diary were slightly expanded and the duplicate, which could be made with carbon paper, forwarded to this office.

Medical headquarters should not be looked upon as an unsympathetic institution designed to trip up the unwary Medical Officer over small infringements of regulations, and to throw cold water on suggested schemes. It must be remembered that officers who occupy the posts there have in their time also been in charge of districts and, in spite of appearances perhaps contradictory to this, it is usually the result of past experience which leads to the rejection of schemes, which their enthusiastic deviser in later years will realise were immature. Medical Officers should look upon the headquarters staff as being there primarily to supply them with advice based upon experience and knowledge, not only of medical work but also of the policy upon which Government is working in other Departments. It is hoped that members of the headquarters staff will be able to travel more frequently in future than they have done in the past and that each station will be visited at least twice a year so that discussion of district difficulties can take place on the spot. But Medical Officers are urged not to wait for such inspections to make their needs known but to write whenever they are in difficulty, explaining as fully as possible the circumstances in which the difficulty has arisen.

Finally a short note on the future prospects of individual medical officers may not be unwelcome. From what has been written above, it will be realised that for district work it is the man with breadth of vision and ability to solve the problems of rural sanitation and preventive medicine amongst an African population who is required rather than the skilled clinician interested more in the pathological conditions he has only too much opportunity of observing. It is but natural, therefore, that in recommending promotion to the senior grades administrative ability will be a first requisite. It is, therefore, to the specialist and teaching appointments that the medical officer who prefers clinical work must look for promotion. The number of these posts in a small Service is necessarily limited, but the advent of the unified Colonial Medical Service should give ample opportunities for selection of qualified men to specialist posts if not in this at any rate in other Colonies.

ENTEBBE,
24TH MARCH, 1934.

W. H. KAUNTZE,
Director of Medical Services.

APPENDIX II.

ANNUAL REPORT OF THE GOVERNMENT ENTOMOLOGIST FOR 1934.

MEDICAL WORK.

Rats, Fleas and Plague.

Work in 1934 has been very largely directed to this subject. The main problem on which work has been done is the investigation of the truth or otherwise of the alleged connection between plague and the cotton industry.

Investigations on this point have taken several lines:—

(*a*) Observations and feeding experiments to evaluate the degree to which rats (chiefly *Rattus rattus*) make use of cotton for food or otherwise.

Observations of many hundreds of nests of *Rattus rattus* have shown that in the very great majority of cases seed-cotton is used in their construction; in almost every instance the seed is found to have been eaten out by rats. Both these observations confirm native report. Feeding experiments are as yet incomplete but are sufficiently far advanced to enable it to be stated definitely that rats readily eat cotton-seed (even in the presence of other food) but that it is not, at least when not supplemented by other foods, a very wholesome diet for them. A considerable proportion of the rats used are able, however, to survive a cotton-seed diet lasting one month. Death appears to be usually due to some form of toxin.

(*b*) Comparison of the rat-fauna of native huts near to and remote from ginneries and cotton stores.

This work has been done by gassing huts with cyanogas, removing the thatch and counting the rats found. The number of huts which has been searched is inadequate but there is at present no evidence that proximity to a ginnery influences the average number of rats per hut.

This series of investigations has also given valuable information as to the habits of rats and as to the efficacy of the routine method of rat destruction with cyanogas. It would appear that it is only in somewhat exceptional cases that *R. rattus* occurs in the walls and floors of huts but that in these instances the number of rats to be found in the walls or floor is usually large. It would also seem that the routine method of rat destruction permits the survival of about twenty-five per cent. of the rats. A curious point is that naked young in nests (not included in the figure of percentage survival) are apparently never killed by the gassing; this is probably of little importance since they will die of starvation if the parents are killed.

(*c*) Indications have been found that old seed-cotton lying about in dirty ginneries may (in addition to its undoubted provision of facilities for rats) provide suitable conditions for the breeding of fleas. This point is being followed up.

(*d*) An attempt was made to investigate the possibility of a seasonal difference in the rat population of ginneries by trapping. The number of ginneries investigated was too small and the figures for rats caught do not give information of value. There are indications that the flea population of ginnery rats may be very high but the results vary so greatly between ginnery and ginnery that much further work will be required before this suggestion is proved.

A by-product of the same investigation is the information that rat-population of huts varies very greatly from district to district, the average population of *R. rattus* in the roofs of sixty-three huts in Buganda was 1·2, while in Busoga similar searches produced an average of 9·1 rats in twenty-six huts. The small granaries which surround most groups of huts in Busoga would seem to have a rat population not less than that of the huts themselves.

An extensive survey of field rats and their fleas was undertaken in Kampala. The two species of *Xenopsylla* characteristic of house rats were found to be very rare on field rats, which very frequently had no fleas. The commonest fleas on field rats were *Dinopsylla lypusus* and *Ctenophthalmus cabirus*. The former species is known to be capable of carrying plague but the numbers in which it occurred are probably too small to permit of the keeping up of an epizootic. This point will have to be further investigated by means of a flea survey of the nests of field rats, on which a small amount of work has already been done.

Mastomys coucha (the multi-mammate mouse) and *Arvicanthis abyssinicus* (our commonest field rat) were not infrequently taken in huts; specimens so captured often bore specimens of *Xenopsylla brasiliensis* and sometimes *X. cheopis;* they had many more fleas than specimens of the same species captured in the open.

Rattus rattus was never captured in the open except in one instance when a trap had been set in grass within a few yards of a hut.

In connection with this work, and also with the work on rats in ginneries, rats have been caught in native huts and in shops, etc. The prevalent flea on *R. rattus* in shops in Kampala is *Xenopsylla cheopis*, while in huts it is almost completely replaced by *X. brasiliensis*.

Counts were made of droppings produced by a known number of rats on a known diet, the intention being to find out whether a droppings count could be used as a rough estimate of the number of rats present in a building. The results showed such great variability as to indicate that this method is valueless under local conditions.

Rat Survey of Uganda.—In order to make a rough survey of the distribution of *Rattus rattus* in Uganda arrangements were made for rat skins to be sent in for identification by Medical Officers. Through the co-operation of these officers, skins were received from all districts and in some instances large collections of skins were received. Attention was directed chiefly to hut rats but in some instances (particularly the large and fine collection from Gulu) field rats were sent in addition. These gave the interesting but not unexpected information that the field rat fauna of some of the northern parts of the country differs very greatly from that of Kampala and other areas bordering on Lake Victoria.

Rattus rattus was found to occur in the following districts: Mengo and Entebbe (widely distributed but apparently somewhat sporadic), Masaka, Ankole (apparently throughout), Kigezi (abundant and widespread), Busoga and Budama (throughout), Teso (apparently throughout), and Karamoja (stated to occur only at Kangole on the Moroto—Adachal road). No skins were received from Lango as the distribution of *R. rattus* in this district has been worked out recently (Barrett, "Epidemiological Observations on Plague in the Lango District of Uganda" —*East African Medical Journal*, 1933, Vol. X., p. 160).

No specimens of *R. rattus* were included in the large collections of skins received from Gulu, and it would also appear to be absent from Chua, Masindi, Hoima, Toro and West Nile.

Identification of Fleas and Rats.—Fleas collected from rats by the staff of the Kampala Health Office have been identified throughout the year and a few specimens from Busoga have also been determined. A small but very interesting collection of fleas was received from the Director of Veterinary Services.

Named rat skins have been distributed to the Medical Officers at many stations to assist them in naming their rat specimens.

Health Exhibition.

An exhibit of all the principal disease-bearing insects in Uganda was prepared for the Kampala Health Exhibition; our commoner rats were also included and literature on mosquitoes, rats and lice was prepared and distributed. Some members of the native staff of the section were trained as lecturers. The exhibit was a very popular one, the interest taken in it by Africans being much greater than was anticipated.

Ticks.

It was previously unknown whether ticks (*Ornithodorus moubata*) were confined to the walls and floors of huts or occurred also in the roofs. Investigation has shown that they are to be found in the thatch where this abuts on the roof beams.

Following on the complete failure of experiments with fumigants against ticks, a considerable amount of work with sprays has been carried out this year. Sprays recommended in the literature for use against the closely related fowl-tick (*Argas persicus*) proved unsatisfactory against *ornithodorus*, but a spray devised by the Entomological Section has given excellent results in the laboratory and will now be tried out in the field. This spray has been tested both in the laboratory and in the field against bed bugs and has given very good results; it is also believed to be effective against mosquitoes.

Tsetse Surveys.

Kazinga Channel.—A survey of this area was carried out in connection with an application for fishing rights in a portion of the restricted area. *Glossina palpalis* was found to occur in considerable numbers on the shores of the channel and of Lake Edward to the southward, though considerable stretches of the lake shore appeared to be free of tsetse and unsuited to it. *G. pallidipes* was also found in parts of the area. It was found possible to select a site for the proposed fishing camp which could be made safe at small cost and the fishing concession was subsequently granted. A suitable line for a road from Mweya to the main Katunguru—Katwe road and two possible lines for a road from Kazinga to the Mbarara—Katunguru road were also surveyed.

Kagera River.—A survey of that part of the river in the immediate neighhourhood of a new hydro-electric scheme was carried out. This survey confirmed the absence of *G. palpalis* in apparently suitable places on this river. *G. morsitans* proved to be scarce in the area examined but one small breeding pocket of the species was found.

Kityerera Forest Station.—A complaint of *Glossina pallidipes* being a pest in the Forester's house was investigated. *G. pallidipes* was very abundant in natural forest surrounding the station and its presence in the house was found to be almost certainly due to the presence of thick secondary bush in the clearing and within fifty yards of the house. The opportunity was taken to examine the steamer landing which serves Kityerera and *G. palpalis* was found within a very short distance of the pier.

Mosquitos.

Training of African staff.—A new activity during the year has been the training of Africans to act as mosquito-searchers in the Medical Department. A number of these boys have now been sent out to stations and favourable reports have been received of the work of nearly all of them.

Survey of Entebbe.—A re-survey of Entebbe was carried out and a detailed map of all known potential breeding places was prepared. Rock holes were found to be of considerably greater importance in connection with malaria in Entebbe than had previously been supposed and suggestions were made for dealing with these and other important breeding places.

Soroti.—A brief survey was carried out in co-operation with the Sanitary Inspector. Some suggestions as to this work were made to him and he then continued the survey with the assistance of native staff trained by us. A few points in the afforested area were selected for special observations and arrangements were made that the Sanitary Inspector should send material from these places to the Entomologist regularly, starting as soon as the general survey is finished. The intention is to ascertain whether small ditches lightly shaded by young trees and (*a*) cleared of grass, (*b*) with the grass left uncut, will breed any dangerous species of *Anopheles*.

Serere.—A brief re-survey of the neighbourhood of the Government Plantation was made and a few temporary pools were filled in. *Anopheles gambiae* was found to breed in the swimming bath at the time when it was beginning to be filled with water; temporary control was obtained by the use of copper sulphate and subsequently a natural balance between the predacious and other insects appears to have become established and the Anophelines disappeared.

Planting of the swamp west of Gola hill took place rather late in the season and a number of the trees died from the effects of the drought.

The results of this and previous surveys were handed over to the District Medical Officer, Soroti. These surveys have been based on a map of the station which was subsequently found to be unreliable as regards distances. More accurate measurements done by the District Medical Officer have shown that several breeding places formerly considered to be rather too far away to be a source of anophelines in more than insignificant numbers are within a one-mile radius of the houses and require attention.

The mosquito proofing of the houses was inspected, in company with the District Medical Officer, and some of the recommendations made have been carried out.

The high anopheles population of this station is difficult to understand if the range of flight of *A. gambiae* and *A. funestus* in the district does not (for practical purposes) exceed one mile. The high incidence of malaria may perhaps be due, at least in part, to the time at which work is begun in the morning; this necessitates the labour (including youths and boys) reporting at the office at dawn, thus probably infecting the Anophelines which are present in large numbers.

Kampala.—A series of detailed maps of each area, showing all potential breeding places, has been prepared; these are in much more detail than previous maps and are reproduced by a multigraphing process so as to be available for all future surveys.

Identifications.—Mosquito larvae and adults from the surveys of Entebbe and Mbale have been identified regularly and a number of adults from Gulu have also been determined.

Tanks and Cisterns.—A large number of inspections of rain water tanks and the cisterns for the piped water supply have been made in Kampala. Practically all the former and a large proportion of the latter bred *Aedes aegypti*, the yellow fever mosquito. Since this work was done and reports submitted the cisterns under the control of the Public Works Department have been made mosquito-proof but tanks continue to breed this species of mosquito in large numbers.

Gutter Experiment.—The experiment with shaded gutters referred to in paragraph 264 of the Report for 1933 has now been carried on for a complete year and has been closed down. No Anophelines bred in any of the gutters but very large numbers of *Aedes aegypti* were found in them throughout the year.

Publications.

G. L. R. Hancock.—"The Mosquitoes of Namanve Swamp, Uganda." *Journal of Animal Ecology*, Vol. III., pp. 204—221.

G. H. E. Hopkins.—"Notes on Uganda Mosquitoes and on Methods of Control." *Uganda Journal*, Vol. II., pp. 49—59.

G. H. E. Hopkins.—"Mankind at War with the Insects." *Uganda Journal*, Vol. II., pp. 234—244.

APPENDIX III.

THE CONTROL OF TYPHUS FEVER IN KIGEZI.

Typhus fever was first diagnosed in the Kigezi District in 1932. Since that date cases were recorded at frequent intervals and it was apparent that the disease was not only endemic in the district but from time to time took on epidemic proportions.

Kigezi is a hilly country, badly served with roads, with a scattered population living in small villages, many of which can only be reached by long journeys on foot. These natives are among the least affected in the Protectorate by European contact and even to-day a large majority of them are clothed only in skins.

In recent years natives from this district have migrated to other parts of the Protectorate in search of work and it was feared, therefore, that the infection of typhus might be carried by them to other parts of the Protectorate where, unfortunately, the body louse can still be found lodged in clothes.

A small epidemic of typhus was reported from Kigezi in March and April of this year and amongst the fatal cases was that of a European Priest. A European Sanitary Inspector, Mr. Carnie, was sent to the district in March, 1934, with instructions to investigate the occurrence of cases and to introduce measures to eradicate the disease.

Examination of the population showed that lice were harboured on the skins worn by the natives throughout the district and that as these vermin occurred on the furry side which is worn next the body washing did not free the skins from lice.

Methods for the disinfestation of the skins were now considered; disinfestation by boiling or steaming had to be ruled out at once as being likely to damage them. Disinfestation by cyanogas was tried, the skins being treated with this in temporary air tight chambers of mud built at Gombolola headquarters. This method proved successful in killing the lice but it was evident that it was difficult of universal application as the natives could not be expected to come long distances regularly for routine disinfestation of their wearing apparel. Disinfestation by heat was next tried, small mud chambers being built with a small opening through which fire could be introduced; this method proved unsuccessful.

It was noticed that many of the natives were in the habit of smoking their skins with the dried roots of a local grass to give them a pleasant smell and for this process used a basket or coop made of twigs, placing such basket or coop above the smoking roots and spreading their skins on top of the basket.

This observation led the Sanitary Inspector to invent a method on similar lines which might be of value in disinfestation and was achieved by the making of a basket or coop of a larger size and covering it with material that tended to retain the heat. Instead of using native grasses, which did not produce much head, dried cow dung was burnt and was found to raise the temperature in the coop up to 180° Fahrenheit. Experiment proved that this heat was sufficient to kill lice and nits in less than half-an-hour. It was also noticed that a skin kept under this process for as long a period as eight hours did not suffer any damage.

The method was at once demonstrated to the District Commissioner and he being convinced of its efficacy called a meeting of all Saza and Gombolola Chiefs, and further successful demonstrations were made. Instructions were then issued by circular letter to all Saza and Gombolola Chiefs that every hut-owner in the Kigezi District must provide himself with a disinfestor, similar to those demonstrated, and carry out weekly disinfestations of all skins belonging to his family. The Sanitary Inspector next toured every Saza and Gombolola and gave practical demonstrations and lectures at Lukikos.

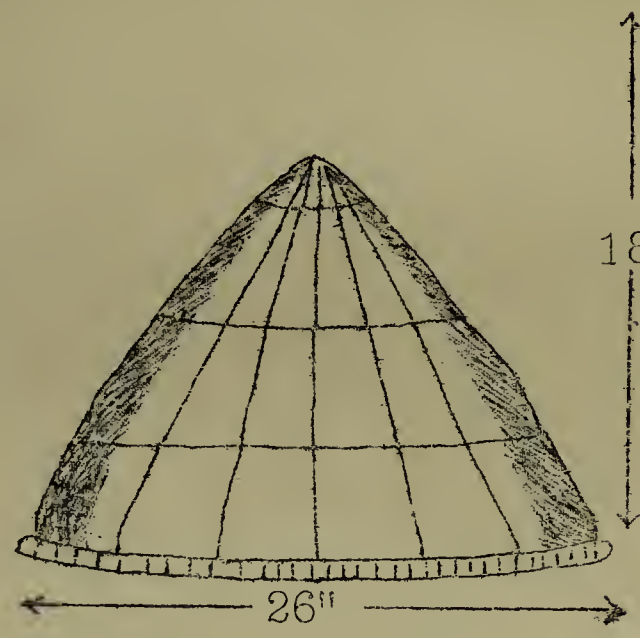
Regular disinfestation by this method has now become a habit in the Kigezi District and recent tours of inspection have shown that it is exceptional for villages not to use their disinfestors. Considerable appreciation has been expressed of the comfort to the individual in the reduction of lice in their wearing apparel.

Sporadic cases of typhus have occurred since the introduction of this method of disinfestation but in all cases it has been possible to show that the disease has only occurred amongst persons who have neglected this routine treatment of their skins.

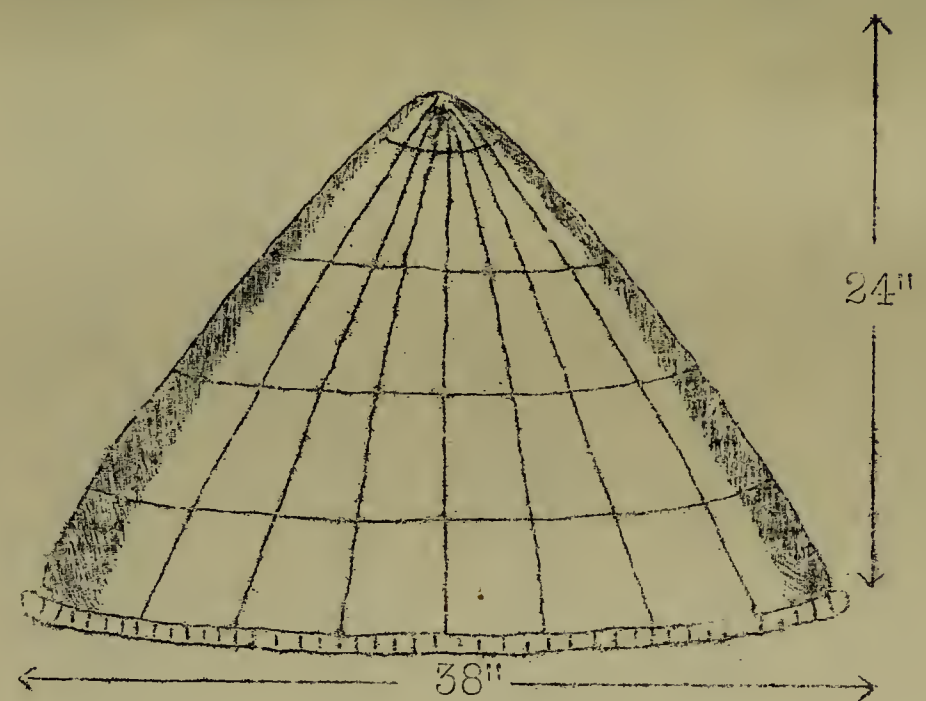
While it is hoped that the danger of the occurrence of typhus in Kigezi in epidemic form is past, it will be necessary for many years for all officers in authority to continue to impress upon the natives the necessity for the regular use of this disinfestor and to make tours of inspection to ensure that this is done.

A sketch of this disinfestor is attached. Heat is produced by the burning of dried cow manure, but it is likely that in other districts substances such as charcoal which gives heat without flame, might be substituted. The method is simple and costs nothing to the ordinary native as the materials for its construction are available throughout the country. The heat is retained within the second coop by a covering of *byai*, obtained from the stem of the banana tree, which is sewn to the frame with native fibre. The *byai* can be strengthened by the application of a thin layer of cattle manure smeared over it; this smearing is similar to that now practised for the protection of clothes.

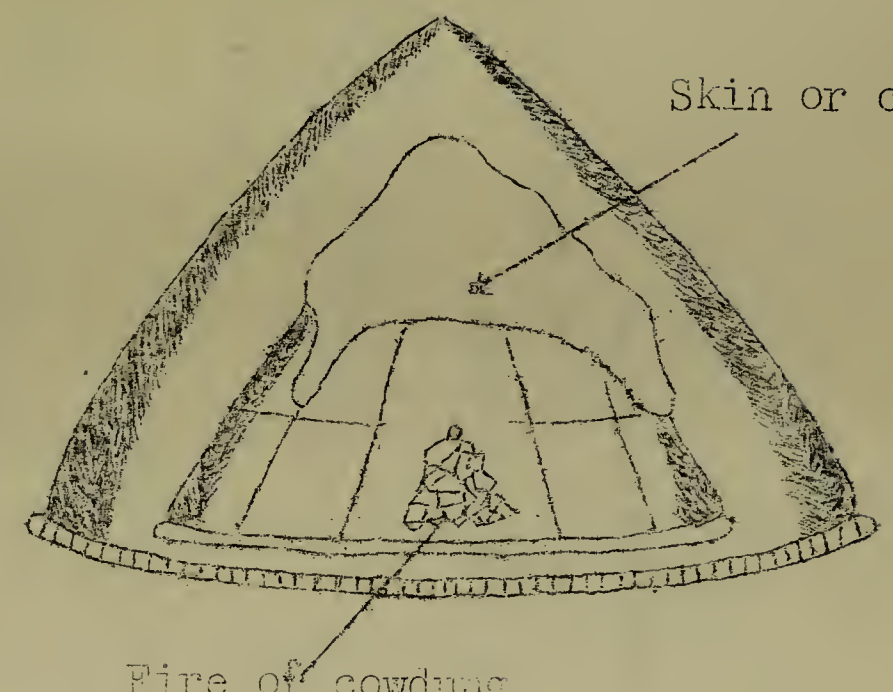
No. 1.


18"
26"

No. 2


24"
38"

No. 3


Skin or cloth.
Fire of cowdung.

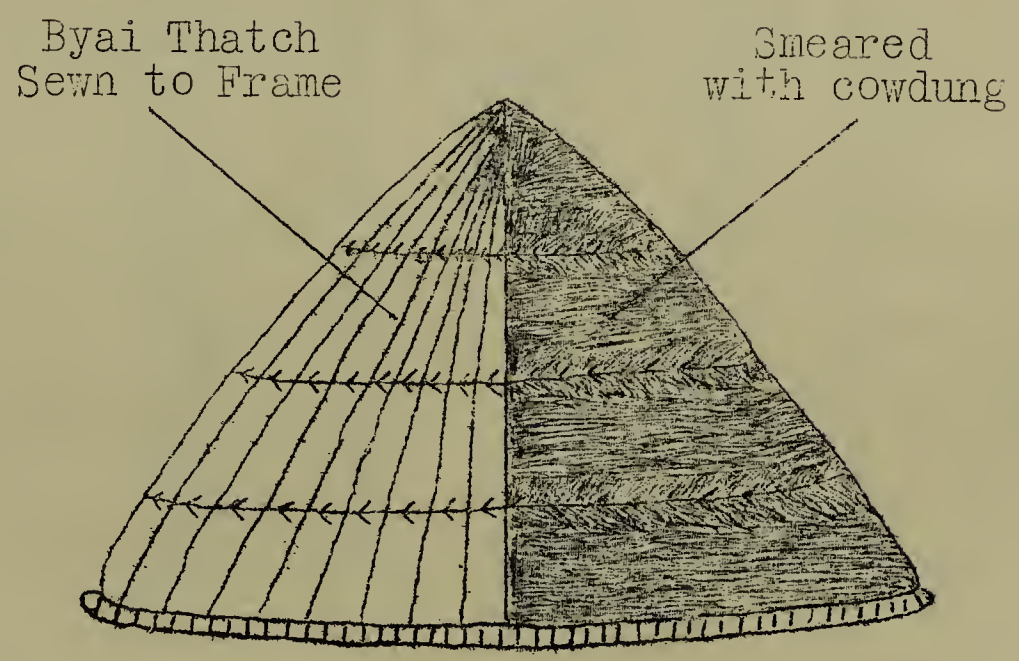

Byai Thatch
Sewn to Frame
Smeared
with cowdung

TABLE I.

Sanctioned Establishment, 1934.

The establishment for 1934 was as follows:—

ADMINISTRATIVE DIVISION.

Director of Medical Services.
Deputy Director of Medical Services.
Assistant Director of Medical Services.
Confidential Clerk (pending abolition of post).
Office Superintendent.
Lady Stenographer and Confidential Secretary.
European Storekeeper (pending retirement).
Pharmacist (pending retirement).
European Storekeeper and Pharamacist.
Asiatic Assistant Storekeeper.
11 Asiatic Clerks.

EXECUTIVE DIVISION.

5 Senior Medical Officers.
31 Medical Officers.
2 European Hospital Superintendents.
3 European Assistant Superintendents and Dispensers.
10 European Sanitary Inspectors.
1 Asiatic Civil Surgeon.
2 Senior Sub-Assistant Surgeons.
15 Sub-Assistant Surgeons.
1 Asiatic Assistant Pharmacist.
2 Asiatic Sanitary Inspectors.
2 Asiatic Cooks for European Hospitals.
1 Asiatic Cook for Asiatic Hospital.

NURSING STAFF.

2 Senior Nursing Sisters.
1 Lady Steward.
20 Nursing Sisters.
4 Asiatic Nurses and Probationers.

LABORATORIES DIVISION.

1 Senior Bacteriologist.
2 Assistant Bacteriologists.
1 Analytical Chemist.
2 European Laboratory Assistants.

SPECIAL APPOINTMENTS.

1 Medical Superintendent and Principal, Medical School.
1 Resident Surgical Officer (pending retirement).
1 Dental Surgeon.

AFRICAN ESTABLISHMENT.

1 African Laboratory Assistant.
19 Senior African Medical Assistants (African Civil Service).
4 African Clerks (African Civil Service).
1 African Teacher (African Civil Service).

A varying number of African staff, including Senior Medical Assistants, Medical Assistants, Attendants, Learners, Plague Inspectors, Vaccinators, Gland Examiners for Sleeping Sickness, Clerks, Interpreters, Headmen, Cooks, Midwives, Nurses and Learners, and also menial staff at all hospitals.

TABLE II.

Actual Expenditure for the Year:—

	£	s.	cts.
PERSONAL EMOLUMENTS	89,190	17	60
OTHER CHARGES:—			
Medical, surgical and dental stores and tools, etc.	11,560	9	75
Furniture and equipment for hospitals	3,060	15	71
Upkeep of hospitals, lunatic asylums and Medical School	6,801	0	87
Control of epidemic and endemic diseases	3,538	12	65
Promotion of Public health and infant welfare	651	12	18
Miscellaneous services (including motor and bicycle allowances, internal transport, passages, maintenance of motor vehicles, water charges, telephone rentals, upkeep of hospital grounds, courses of instruction to medical staff, uniforms for African staff, etc. ...	19,929	3	58
	£134,732	12	34

GRANTS TO MISSIONS:—	£	s.	cts.
Contribution to Lady Coryndon Maternity School and grants to Missions for maintenance of midwifery centres and midwives ...	2,260	0	00
Grants to Church Missionary Society for native training	250	0	00
Leprosy relief measures	1,449	7	60
	£3,959	7	60

SPECIAL EXPENDITURE:—	£	s.	cts.
Motor vans for sanitary inspectors	703	2	23
Anti-malarial measures—afforestation	1,279	9	74
	£1,982	11	97

Revenue.

The total amount of revenue collected as hospital fees, sales of medicines and surgical stores, registration fees and re-imbursements on account of medical services was as follows:—

	£	s.	cts.
Hospital fees, sales of medicines and surgical stores, registration fees	11,600	11	50
Reimbursements from Kenya and Uganda Railways and Harbours on account of medical and sanitary services	1,151	13	75
Contribution from Lukikos towards cost of medical stores for sub-dispensaries	5,976	0	00
	£18,728	5	25

TABLE III.

Return of Statistics of Population.

The only statistics available are embodied in the Blue Book.

TABLE IV.

Meteorological Return.

All available information under this head is embodied in the Blue Book.

Tables V and VI.

Return of Diseases and Deaths for the Year 1934.

DISEASES.	Table V. Remaining in Hospital at end of 1933.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1934.	Table VI. All Cases including both In- and Out-Patients.
I. Epidemic, Endemic, and Infectious Diseases.						
1. Enteric Group—						
(*a*) Typhoid Fever	1	46	47	14	2	46
(*b*) Paratyphoid A	...	2	2	...	...	3
(*c*) Paratyphoid B	...	5	5	1	...	6
(*d*) Type not defined	...	9	9	2	...	9
2. Typhus	2	55	57	8	1	45
3. Relapsing Fever	10	414	424	10	9	1,135
4. Undulant Fever	...	2	2	...	...	2
5. Malaria—						
(*a*) Tertian	2	362	364	6	6	1,271
(*b*) Quartan	2	295	297	4	6	1,374
(*c*) Æstivo-autumnal	22	1,578	1,600	68	22	7,597
(*d*) Clinical	30	1,701	1,731	27	28	49,506
(*e*) Mixed Infections	...	26	26	2	3	396
(*f*) Cachexia	...	6	6	...	...	85
(*g*) Blackwater	1	37	38	12	2	65
6. Smallpox	...	...	...	...	...	...
Alastrim	...	...	...	...	...	...
7. Measles	2	33	35	...	...	416
8. Scarlet Fever	...	...	...	...	...	...
9. Whooping Cough	1	112	113	5	4	3,631
10. Diphtheria	...	...	...	...	...	...
11. Influenza	11	912	923	28	25	13,666
12. Miliary Fever	...	1	1	...	...	...
13. Mumps	...	183	183	1	6	1,739
14. Cholera	...	...	...	...	...	...
15. Epidemic Diarrhœa	...	14	14	2	...	17
16. Dysentery—						
(*a*) Amœbic	11	266	277	17	4	953
(*b*) Bacillary	1	185	186	6	2	728
(*c*) Undefined or due to other causes	2	102	104	5	1	1,936
17. Plague—						
(*a*) Bubonic	1	10	11	9	...	34
(*b*) Pneumonic	...	16	16	14	...	23
(*c*) Septicæmic	...	3	3	2	...	3
(*d*) Undefined	...	5	5	4	...	7
18. Yellow Fever	...	...	...	...	...	...
19. Spirochætosis ictero-hæmorrhagica	...	...	...	...	...	1
20. Leprosy	6	67	73	1	5	1,577
21. Erysipelas	...	10	10	1	...	15
22. Acute Poliomyelitis	...	6	6	...	2	5
23. Encephalitis Lethargica	...	3	3	...	...	4
24. Epidemic Cerebro-Spinal Fever	4	135	139	43	1	181
25. Other Epidemic Diseases—						
(*a*) Rubeola (German Measles)	...	3	3	...	...	37
(*b*) Varicella (Chicken-pox)	9	212	221	...	8	858
(*c*) Kala-azar	...	...	...	...	...	...
(*d*) Phlebotomus Fever	...	...	...	...	...	1
(*e*) Dengue	...	...	...	...	...	...
(*f*) Epidemic Dropsy	...	3	3	...	...	...
(*g*) Yaws	139	1,886	2,025	9	102	57,056
(*h*) Trypanosomiasis	29	223	252	5	14	913
(*i*) P.U.O.	2	47	49	8	4	1,088
26. Glanders	...	...	...	...	...	...
27. Anthrax	...	15	15	1	...	273
28. Rabies	...	...	...	...	...	...
29. Tetanus	...	9	9	3	2	9
30. Mycosis	...	2	2	...	...	11
31. Tuberculosis, Pulmonary and Laryngeal	18	235	253	76	22	900
32. Tuberculosis of the Meninges or Central Nervous System	...	1	1	1	...	1
33. Tuberculosis of the Intestines or Peritoneum	...	3	3	1	...	10
34. Tuberculosis of the Vertebral Column	2	13	15	4	2	14
35. Tuberculosis of Bones and Joints	2	24	26	1	2	40
36. Tuberculosis of other organs—						
(*a*) Skin or Subcutaneous Tissue (Lupus)	...	3	3	...	...	10
(*b*) Bones	...	1	1	..	...	1
(*c*) Lymphatic System	...	8	8	2	1	11
(*d*) Genito-urinary	...	4	4	...	...	5
(*e*) Other organs	...	5	5	2	...	8
37. Tuberculosis disseminated—						
(*a*) Acute	1	5	6	2	...	5
(*b*) Chronic	...	1	1	...	...	2
38. Syphilis—						
(*a*) Primary	25	368	393	...	16	8,435
(*b*) Secondary	35	506	541	...	15	15,347
(*c*) Tertiary	34	659	693	12	26	34,495
(*d*) Hereditary	5	228	233	43	2	15,012
(*e*) Period not indicated	...	1	1	...	...	130
(*f*) Latent	...	6	6	...	...	722
39. Soft Chancre	6	159	165	...	19	1,399

Tables V and VI—*contd.*

DISEASES.	Table V. Remaining in Hospital at end of 1933.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1934.	Table VI. All Cases including both In- and Out-Patients.
I. Epidemic, Endemic, and Infectious Diseases—*contd.*						
40. A.—Gonorrhœa and its complications	44	540	584	10	17	8,880
B.—Stricture	8	124	132	7	4	371
C.—Stricture and Extravasation	2	79	81	18	5	126
D.—Gonorrhœal Ophthalmia	1	26	27	...	2	70
E.—Gonorrhœal Arthritis	2	43	45	...	7	97
F.—Salpingitis, etc.	...	71	71	...	5	125
G.—Granuloma Venereum	1	9	10	1	1	21
41. Septicæmia	2	16	18	7	...	20
42. Other Infectious Diseases	1	5	6	1	...	22
II. General Diseases not mentioned above.						
43. Cancer or other malignant Tumours of the Buccal Cavity	...	2	2	1	...	4
44. Cancer or other malignant Tumours of the Stomach or Liver	...	8	8	3	...	9
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum	...	6	6	3	...	5
46. Cancer or other malignant Tumours of the Female Genital Organs	2	8	10	3	2	21
47. Cancer or other malignant Tumours of the Breast	...	7	7	...	...	10
48. Cancer or other malignant Tumours of the Skin	1	21	22	1	3	23
49. Cancer or other malignant Tumours of organs not specified	...	48	48	6	1	77
50. Tumours non-malignant	8	82	90	3	2	228
51. Acute Rheumatism	1	19	20	...	3	350
52. Chronic Rheumatism	1	96	97	...	2	6,546
52A. Myalgia	5	265	270	1	6	48,335
53. Scurvy (including Barlow's Disease)	...	16	16	1	...	245
54. Pellagra	...	...	...	...	...	...
55. Beri-Beri	...	...	...	...	...	1
56. Rickets	...	...	...	...	...	2
57. Diabetes (not including Insipidus)	1	9	10	1	2	10
58. Anæmia—						
(*a*) Pernicious	...	5	5	1	...	14
(*b*) Other Anæmias and Chlorosis	2	58	60	10	3	600
59. Diseases of the Pituitary Body	1	2	3	...	...	...
60. Diseases of the Thyroid Gland—						
(*a*) Exophthalmic Goitre	...	...	...	...	...	10
(*b*) Other diseases of the Thyroid gland, Myxœdema	...	1	1	1	...	10
(*c*) Others	...	8	8	...	...	34
61. Diseases of the Para-Thyroid Glands	...	...	...	...	...	...
62. Diseases of the Thymus	...	1	1	...	...	1
63. Diseases of the Supra-Renal Glands	...	...	...	...	...	...
64. Diseases of the Spleen	1	64	65	3	1	3,082
65. Leukæmia—						
(*a*) Leukæmia	...	3	3	1	...	3
(*b*) Hodgkin's Disease	...	1	1	1	...	2
66. Alcoholism	...	5	5	...	...	8
67. Chronic poisoning by mineral substances (leads, mercury, etc.)	...	4	4	...	...	5
68. Chronic poisoning by organic substances (morphia, cocaine, etc.)	...	...	...	...	...	1
69. Other general diseases—						
Auto-intoxication	...	...	...	...	...	1
Purpura Hæmorrhagica	...	1	1	1	...	1
Hæmophilia	...	...	...	...	...	1
Diabetes Insipidus	...	2	2	...	...	2
Others	...	27	27	1	...	3,229
III. Affections of the Nervous System and Organs of the Senses.						
70. Encephalitis (not including Encephalitis Lethargica)	...	4	4	1	...	7
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	1	23	24	14	1	22
72. Locomotor Ataxia	...	1	1	1	...	...
73. Other affections of the Spinal Cord	1	8	9	...	1	30
74. Apoplexy—						
(*a*) Hæmorrhage	...	13	13	6	...	18
(*b*) Embolism	...	1	1	...	1	1
(*c*) Thrombosis	...	25	25	3	2	27
75. Paralysis—						
(*a*) Hemiplegia	...	34	34	2	3	75
(*b*) Other Paralyses	5	41	46	6	3	131
76. General Paralysis of the Insane	...	2	2	...	...	4
77. Other forms of Mental Alienation	1	32	33	2	3	51
78. Epilepsy	5	47	52	1	5	207
79. Eclampsia Convulsions (non-puerperal) 5 years or over	...	...	...	...	...	...
80. Infantile Convulsions	...	...	...	...	..	4

Tables V and VI—*contd.*

DISEASES.	Table V.					Table VI.
	Remaining in Hospital at end of 1933.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1934.	All Cases including both In- and out-Patients.
III. Affections of the Nervous System and Organs of the Senses—*continued.*						
81. Chorea	...	1	1	...	...	3
82. A.—Hysteria	...	11	11	...	...	25
B.—Neuritis	...	13	13	...	...	173
C.—Neurasthenia	...	1	1	...	...	14
83. Cerebral Softening	...	2	2	...	...	3
84. Other affections of the Nervous System, such as Paralysis Agitans, Headache, Neuralgia, Insomnia, etc.	1	113	114	1	4	14,644
85. Affections of the Organs of Vision—						
(*a*) Conjunctivitis	6	202	208	...	4	33,240
(*b*) Trachoma	4	128	132	...	4	6,135
(*c*) Tumours of the Eye	...	4	4	...	3	19
(*d*) Iritis	1	17	18	...	1	605
(*e*) Other affections of the Eye	1	142	143	1	8	2,664
86. Affections of the Ear or Mastoid Sinus—						
(*a*) Otitis Media	1	104	105	1	6	9,142
(*b*) Others	...	27	27	1	2	4,172
IV. Affections of the Circulatory System.						
87. Pericarditis	...	2	2	1	...	10
88. Acute Endocarditis	...	12	12	8	2	12
89. Angina Pectoris	...	2	2	1	...	2
90. Other Diseases of the Heart—						
(*a*) Valvular—						
Mitral	4	41	45	11	4	105
Aortic	...	17	17	6	...	46
Tricuspid	...	2	2	...	...	1
Pulmonary	...	2	2	...	...	2
Mixed or unspecified	1	6	7	1	...	204
(*b*) Myocarditis	1	5	6	...	...	8
D.A.H.	...	35	35	7	1	552
Others	...	19	19	...	3	217
91. Diseases of the Arteries—						
(*a*) Aneurism	1	4	5	1	1	10
(*b*) Arterio-Sclerosis	...	2	2	...	...	3
(*c*) Other diseases	...	2	2	...	...	11
92. Embolism or Thrombosis (non-cerebral)	...	3	3	1	...	4
93. Diseases of the Veins—						
Hæmorrhoids	...	22	22	...	2	155
Varicose Veins	1	4	5	...	...	29
Phlebitis	...	2	2	...	...	19
94. Diseases of the Lymphatic System—						
Lymphangitis	...	5	5	1	...	148
Lymphadenitis, Bubo (non-specific)	5	207	212	...	11	3,064
Others	...	8	8	...	...	242
95. Hæmorrhage of undetermined cause	1	11	12	...	...	35
96. Other affections of the Circulatory System	...	7	7	...	...	44
V. Affections of the Respiratory System.						
97. Diseases of the Nasal Passages and accessory sinuses—						
Adenoids	...	10	10	...	...	118
Polypus	...	7	7	...	...	14
Rhinitis	...	5	5	...	1	305
Coryza	...	94	94	1	3	16,587
Others	...	45	45	...	...	2,564
98. Affections of the Larynx—						
Laryngitis	1	16	17	1	...	1,804
Tracheitis	2	30	32	...	3	18,266
99. Bronchitis—						
(*a*) Acute	4	226	230	3	2	23,393
(*b*) Chronic	4	233	237	6	5	27,664
100. Broncho-Pneumonia	12	422	434	84	6	803
101. Pneumonia—						
(*a*) Lobar	21	965	986	225	26	1,343
(*b*) Unclassified	2	194	196	47	3	1,685
102. Pleurisy	6	118	124	2	1	1,146
102A. Empyema	3	12	15	3	...	13
103. Congestion of the Lungs	...	...	...	...	...	...
104. Gangrene of the Lungs	...	...	...	...	...	...
105. Asthma	1	35	36	1	3	775
106. Pulmonary Emphysema	...	2	2	...	...	3
107. Other affections of the Lungs—						
Pulmonary Spirochætosis	...	1	1	...	...	1
Others	...	13	13	1	1	1,785
VI. Diseases of the Digestive System.						
108. A.—Diseases of the Teeth or Gums—						
Caries	...	17	17	...	...	6,290
Pyorrhœa	...	12	12	...	—	1,117
Others	...	25	25	...	...	633

Tables V and VI.—*contd.*

DISEASES.	Table V.					Table VI.
	Remaining in Hospital at end of 1933.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1934.	All Cases including both In- and Out-Patients.
VI. Affections of the Digestive System—*continued.*						
B.—Other affections of the Mouth—						
Stomatitis	...	63	63	2	2	6,793
Glossitis	...	1	1	...	...	60
Others	...	16	16	2	...	149
109. Affections of the Pharynx or Tonsils—						
Tonsilitis	2	131	133	1	3	2,161
Pharyngitis	1	34	35	2	...	3,360
Others	...	13	13	2	...	873
110. Affections of the Œsophagus	...	2	2	...	...	3
111. A.—Ulcer of the Stomach	...	2	2	1	...	2
B.—Ulcer of the Duodenum	...	7	7	...	1	12
112. Other affections of the Stomach—						
Gastritis	...	31	31	1	1	1,017
Dyspepsia	...	94	94	1	2	13,023
Others	...	12	12	...	...	3,983
113. Diarrhœa and Enteritis—						
Under two years of age	1	47	48	4	...	5,638
114. Diarrhœa and Enteritis—						
Two years of age and over	...	216	216	10	3	12,690
Colitis	1	20	21	...	1	493
Ulceration	...	1	1	...	...	2
114A. Sprue	...	...	...	...	...	5
115. Ankylostomiasis	17	583	600	26	17	1,915
116. Diseases due to Intestinal Parasites—						
(*a*) Cestoda (Taenia)	...	105	105	...	1	3,234
(*b*) Trematoda (Flukes)	...	...	...	...	...	6
(*c*) Bilharzia	1	43	44	1	1	137
(*d*) Nematoda (other than Ankylostoma)—						
Ascaris	5	239	244	2	2	2,039
Trichocephalus dispar.	...	13	13	...	...	14
Trichina	1	23	24	...	...	76
Dracunculus	7	133	140	...	4	2,028
Strongylus	...	...	...	...	...	2
Oxyuris	...	2	2	...	...	36
(*e*) Coccidia	...	...	...	...	...	...
(*f*) Other parasites	1	7	8	...	1	19
(*g*) Unclassified	...	...	...	...	...	7
117. Appendicitis	1	22	23	1	...	42
118. Hernia	11	369	380	36	22	917
119. A.—Affections of the Anus and Rectum—						
Fistula	1	6	7	...	1	36
Others	5	63	68	4	1	172
B.—Other affections of the Intestines—						
Enteroptosis	...	8	8	1	...	7
Constipation	...	115	115	4	2	29,044
Others	...	4	4	1	...	80
120. Acute Yellow Atrophy of the Liver	...	...	...	...	...	...
121. Hydatid of the Liver	...	...	...	...	...	...
122. Cirrhosis of the Liver—						
(*a*) Alcoholic	...	16	16	5	3	20
(*b*) Other forms	2	23	25	7	2	24
123. Biliary Calculus	...	2	2	...	...	2
124. Other affections of the Liver—						
Abscess	1	5	6	3	...	13
Hepatitis	2	27	29	1	...	107
Cholecystitis	1	8	9	...	...	34
Jaundice	2	60	62	3	1	667
Others	...	3	3	2	...	59
125. Diseases of the Pancreas	...	...	...	...	...	...
126. Peritonitis (of unknown cause)	1	16	17	12	...	21
127. Other affections of the Digestive System	1	55	56	8	1	5,137
VII. Diseases of the Genito-Urinary System (non-Venereal).						
128. Acute Nephritis	4	44	48	12	1	106
129. Chronic Nephritis	1	45	46	15	5	69
130. A.—Chyluria	...	...	...	...	...	7
B.—Schistosomiasis	...	14	14	...	2	18
131. Other affections of the Kidneys and Ureters—						
Pyelitis	1	9	10	...	...	19
Others	...	5	5	...	...	21
132. Urinary Calculus	...	1	1	...	...	...
133. Diseases of the Bladder—						
Cystitis	3	50	53	2	3	190
Others	...	93	93	7	9	107
134. Diseases of the Urethra—						
(*a*) Stricture	1	11	12	...	...	31
(*b*) Others	...	13	13	1	...	28
135. Diseases of the Prostate—						
Hypertrophy	...	...	...	...	...	...
Prostatitis	...	1	1	...	...	3

Tables V and VI—*contd.*

DISEASES.	Table VI.					Table VI.
	Remaining in Hospital at end of 1933.	Yearly Admissions.	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1934.	All Cases including both In- and Out-Patients.
VII. Diseases of the Genito-Urinary System (non-Venereal)—*continued.*						
136. Diseases (non-Venereal) of the Genital Organs of Man—						
Epididymitis	...	64	64	...	1	132
Orchitis	1	67	68	1	2	626
Hydrocele	2	68	70	2	2	228
Ulcer of Penis	2	28	30	...	1	137
Varicocele	...	...	...	...	...	4
Others	5	162	167	2	4	496
137. Cysts or other non-malignant Tumours of the Ovaries	...	29	29	...	...	49
138. Salpingitis :—						
Abscess of the Pelvis	...	12	12	...	...	23
139. Uterine Tumours (non-malignant)	1	17	18	2	3	24
140. Uterine Hæmorrhage (non-puerperal)	...	4	4	1	...	33
141. A.—Metritis	...	26	26	1	1	53
B.—Other affections of the Female Genital Organs—						
Displacement of Uterus	...	12	12	...	...	38
Amenorrhœa	...	3	3	...	...	114
Dysmenorrhœa	...	14	14	...	...	306
Leucorrhœa	1	7	8	...	...	125
Others	4	31	35	4	5	167
142. Diseases of the Breast (non-puerperal)—						
Mastitis	2	37	39	...	1	566
Abscess of Breast	...	14	14	...	1	152
Others	...	3	3	...	...	39
VIII. Puerperal State.						
143. A.—Normal Labour	19	983	1,002	2	14	1,307
B.—Accidents of Pregnancy—						
(*a*) Abortion or Miscarriage	4	221	225	7	8	437
(*b*) Ectopic Gestation	...	3	3	...	1	11
(*c*) Other accidents of Pregnancy	...	66	66	5	1	140
C.—Ante-natal supervision	3	136	139	...	15	12,826
144. Puerperal Hæmorrhage	...	...	...	...	...	1
145. Other accidents of Parturition	3	118	121	38	3	121
146. Puerperal Septicæmia	1	11	12	9	...	16
147. Phlegmasia Dolens	...	2	2	...	...	1
148. Puerperal Eclampsia	...	1	1	...	...	3
149. Sequelæ of Labour	...	22	22	6	...	27
150. Puerperal affections of the Breast	...	...	...	...	...	...
IX. Affections of the Skin and Cellular Tissues.						
151. Gangrene	1	8	9	3	...	19
152. Boil	1	35	36	...	...	5,506
Carbuncle	...	7	7	...	...	42
153. Abscess	22	742	764	12	30	8,595
Whitlow and Onychia	2	114	116	...	3	3,769
Cellulitis	11	304	315	8	3	7,606
154. A.—Tinea	...	22	22	...	...	1,979
B.—Scabies	9	161	170	...	1	41,795
155. Other Diseases of the Skin—						
Erythema	...	6	6	...	...	228
Urticaria	...	19	19	1	...	619
Eczema	1	35	36	...	3	1317
Herpes	...	7	7	...	...	388
Psoriasis	...	4	4	...	...	155
Elephantiasis	8	101	109	...	6	690
Myiasis	...	5	5	...	...	10
Chigoes	5	60	65	...	6	696
Cutaneous Leishmaniasis	...	...	...	...	...	4
Ulcers	201	2265	2466	17	157	49996
Others	2	152	154	3	6	3843
X. Diseases of the Bones and Organs of Locomotion (Other than Tuberculous)—						
156. Diseases of the Bones—						
Osteitis	1	24	25	1	3	54
Periostitis	1	18	19	1	1	217
Others	1	34	35	...	4	90
157. Diseases of Joints—						
Arthritis	4	110	114	1	7	1371
Synovitis	6	84	90	...	2	1653
Others	...	19	19	...	...	72
158. Other diseases of Bones or Organs of Locomotion—						
(*a*) Teno-synovitis	...	3	3	...	...	34
(*b*) Ganglion	...	13	13	1	1	282
(*c*) Others	...	10	10	...	...	66

Tables V and VI.—*contd.*

DISEASE.	Table V.					Table VI.
	Remaining in Hospital at end of 1933.	Yearly Admissions	Total Cases Treated.	Total Deaths.	Remaining in Hospital at end of 1934.	All Cases including both In- and Out-Patients.
XI. Malformations.						
159. Malformations—						
Hydrocephalus	...	2	2	...	...	6
Hypospadias	...	...	...	..	...	...
Spina Bifida	...	...	...	...	...	...
Others	...	1	1	...	...	5
XII. Diseases of Infancy.						
160. Normal living babies	20	934	954	15	11	2730
160A. Congenital Debility	1	14	15	5	2	176
161. Premature Birth	...	45	45	30	2	56
162. Other affections of Infancy	...	19	19	11	...	46
162A. Babies still-born	...	...	...	...	...	128
163. Infant neglect (infants of three months or over)	...	4	4	1	...	21
XIII. Affections of Old Age.						
164. Senility—						
Senile Dementia	...	12	12	8	...	64
XIV. Affections produced by External Causes.						
165. Suicide by Poisoning	...	...	...	...	...	5
166. Corrosive Poisoning (intentional)	...	5	5	1	...	6
167. Suicide by Gas Poisoning	...	...	...	...	...	...
168. Suicide by Hanging or Strangulation	...	1	1	1	...	2
169. Suicide by Drowning	...	...	...	...	...	...
170. Suicide by Firearms	...	1	1	...	...	1
171. Suicide by cutting or stabbing instruments	...	1	1	...	...	1
172. Suicide by jumping from a height	...	...	...	...	...	...
173. Suicide by crushing	...	...	...	...	...	...
174. Other suicides	...	...	...	...	...	...
175. Food Poisoning—						
Botulism	...	5	5	...	...	13
176. Attacks of poisonous animals—						
Snake Bite	...	51	51	...	2	318
Insect Bite	...	14	14	...	...	613
177. Other accidental Poisonings	...	5	5	...	...	11
178. Burns (by fire)	28	535	563	52	30	7,110
179. Burns (other than by fire)	2	62	64	6	2	559
180. Suffocation (accidental)	...	...	...	...	...	1
181. Poisoning by Gas (accidental)	...	...	...	...	...	...
182. Drowning (accidental)	...	...	...	...	...	...
183. Wounds (by Firearms, war excepted)	1	7	8	...	2	3
184. Wounds (by cutting or stabbing instruments)	45	851	896	16	36	19,202
185. Wounds (by fall)	4	226	230	4	7	7,209
186. Wounds (in Mines or Quarries)	...	2	2	1	...	44
187. Wounds (by Machinery)	...	9	9	...	...	17
188. Wounds (crushing, *e.g.*, railway accidents, etc.)	...	7	7	...	9	16
189. Injuries inflicted by Animals, Bites, Kicks, etc.	6	204	210	20	...	2,978
190. Wounds inflicted on Active Service	...	...	...	...	...	...
191. Executions of civilians by belligerents	...	...	...	...	...	...
192. A.—Over fatigue	...	1	1	...	...	...
B.—Hunger or Thirst	1	11	12	3	1	13
193. Exposure to Cold, Frost bite, etc.	...	...	...	...	...	...
194. Exposure to Heat—						
Heatstroke	...	...	...	...	..	1
Sunstroke	...	...	...	...	...	1
195. Lightning Stroke	1	12	13	...	...	37
196. Electric Shock	...	...	...	...	...	1
197. Murder by Firearms	...	...	...	...	...	...
198. Murder by cutting or stabbing instruments	...	4	4	4	...	20
199. Murder by other means	...	...	...	...	...	1
200. Infanticide (murder of an infant under one year)	...	...	...	...	...	...
201. A.—Dislocation	1	30	31	1	...	246
B.—Sprain	4	96	100	...	5	3,916
C.—Fracture	28	406	434	25	31	1,075
202. Other external Injuries	85	2,321	2,406	12	109	55,550
203. Deaths by Violence of unknown case	...	...	...	..	...	1
XV. Ill-Defined Diseases.						
204. Sudden Death (cause unknown)	...	...	...	...	...	...
205. A.—Diseases not already specified or ill-defined—						
Ascites	2	40	42	6	2	94
Œdema	1	25	26	1	1	156
Asthenia	2	67	69	3	...	464
Shock	...	3	3	...	...	3
Hyperpyrexia	...	...	...	..	...	1
B.—Malingering	...	23	23	...	...	1,348
XVI. Diseases, the total of which have not caused 10 deaths, including N.A.D. and N.Y.D.	3	140	143	16	2	2,107
Cases not recorded by Diseases	...	1	1	...	...	7
Total, Sections I to XVI	...	...	...	...	..	831,240
Examinations	6	659	665	...	5	149,915
GRAND TOTAL	1,237	33,116*	34,353*	1,550*	1,206	981,155

*Does not include still births.